THE
BUILDERS OF AMERICA

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To
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LEADER IN THE CONSERVATION OF HUMAN RESOURCES,
PIONEER IN THE GREAT WORK OF RACIAL BETTERMENT

PREFACE

THIS book is an appeal to the good sense and conscience of thoughtful and high-minded people everywhere. It is an attempt to state the true situation as to the relative increase or decrease in various types of population in the United States. It shows the present differences between the birth rates not only of the more and the less competent classes, but of different types of competent people and of competent people in different parts of the United States. It not only points out the dangers inherent in such differences, but describes certain highly favorable features which have hitherto been almost completely overlooked. It ends with a series of suggestions for correcting the evils and for strengthening the favorable tendencies thus exposed.

The book as it now stands is a thoroughly joint product. The original plan, the title, and a tentative draft are the work of the junior author. The draft was submitted to the senior author for criticism. It interested him so much, and was so in accord with his own ideas, that he yielded to the junior author's request for coöperation. The senior author has rewritten the whole manuscript, more than doubling the original size and adding new chapters, especially those dealing with the size of families (IV), marriage and social institutions (IX and XI), *Who's Who* (XII and XIII), and college students (XIV to XVIII). The work of writing the book and of gathering the material for it have made the authors much more hopeful for the future than they were when they began.

Many people have coöperated in the preparation of this book—so many that there is danger that some will be overlooked. Dr. J. C. Phillips of Harvard deserves special recognition. Not only have we drawn freely on his study of the

children of Harvard graduates, but at our request he made a comprehensive investigation of the success of three Harvard classes in later life and compared this with their records as to marriage and children. He also placed his original data at our disposal so that we could make further comparisons relating to occupations and geographical distribution. Assistance has also been rendered by Professor Roswell H. Johnson, Major Albert W. Draves, Professor Harrison R. Hunt, Mr. Madison Grant, and Dr. H. H. Laughlin, who have read the manuscript or proof in whole or in part and made suggestions of great value. Others who have read parts of the manuscript, or who have made valuable contributions of other kinds include Judge Harry Olson, Dr. Wm. J. Hickson, Mr. Albert Edward Wiggam, Professor Irving Fisher, Professor Robert Sprague, and Mr. Karl G. Karsten. We are likewise indebted to the A. N. Marquis Company for proof sheets of *Who's Who* from which we began our study of that volume. From first to last the wives, and likewise the children, of the authors have played a very important part in determining what kind of book this should be.

To all of those here mentioned, as well as to others, the authors would express their deep sense of obligation.

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THE QUEEN'S GARDEN

When the Great War was ended the people communed with one another and said, "Where are the great ones of old? How many leaders worthy of such a crisis were brought to light by the war? Why do we see so few great poets, great artists, great statesmen, great executives, great scientists? Why are our standards falling so rapidly in spite of the seeming brilliance of our day and generation?"

And lo, one answered and said, "Have we sacrificed ourselves to our things? Have we gained control over space and time and matter at the expense of human material,—the brain and intellect and talent,—which form the basis of all progress? Know ye not the parable of the Queen's garden? Listen and ye shall hear, but woe unto you if ye hear and do not understand."—

When Prince Arten married the Princess Flora his wedding present to his fair bride was the loveliest of gardens. The center and borders were filled with wonderful pansies—like unto the black velvet gown of a bishop, the yellow silk of a duchess, the royal purple of a king, the motley of the gayest of clowns, and the white robe of a bride. From far and near they sought the rarest, choicest seed of this, her favorite flower, to make that garden perfect. A hundred gardeners kept the blossoms always at the best. Not a flower was allowed to go to seed, and not a withered leaf could even the sharpest eye detect. And ever in the palace and in all the homes of the sick and afflicted, even the poorest, there was great wealth

of lovely pansies from the royal gardens, for so the Princess Flora willed.

As the Princess grew older and became a queen and mother, her love for flowers grew ever stronger, as did the love her people bore to her. So the King's servants combed the country for seed of some rare flower, and all his courtiers and his ministers—and likewise even the poorest of the peasants— vied with each other in bringing seed of some new pansy, rarer and more marvelous than the last. All that were brought were tended with equal skill, so that the plants were always full of buds and blossoms and free from dead leaves and drying seed vessels. Never were the gardeners allowed to raise seed on any of their plants for so the blossoms would have suffered.

Thus it happened for many years, until at last Queen Flora, alone with the King, spoke out a grief that had slowly been growing in her heart. "Can it be that our people are losing their love for me? When first I came to thee, our pansy garden contained hundreds of wondrous varieties, but where now are the bishop's black gown, the opulent duchess, the royal purple, the gorgeous clown, and the bride in her marvelous whiteness? Why do we not raise these more precious kinds as in the past?"

The troubled King called his chief gardeners. "Why do your underlings neglect their work? Tell them to cultivate the Queen's garden more carefully."

Then did the gardeners labor most zealously. The pansies were larger, the blossoms more perfect, and the season of blooming longer than ever before. But still the Queen was sad, for none of the old rare favorites came back. "They do not love me," she said, "else would my people bring me seed of those rare kinds that once grew here abundantly."

Again the King was sad. "Speak to my people once more," *said he to his ministers, "that they bring seed of the rarest*

of their flowers, especially pansies of the kinds that the Queen loves best."

Far and wide went the message, and many of the people gladly brought the best seed they could find. Next year in her garden the Queen found some of her old favorites, but the loveliest were still missing. Then year by year the rare kinds once more diminished, until at last only the common ones were found. The Queen wept bitterly. Again the King called his gardeners. "Why do ye grieve my Queen? Why do ye permit her garden to become no better than that of the basest peasant? Is there no remedy?"

Then spake the chief gardener, "Sire, since thou hast asked advice, we must tell thee that the secret of the Queen's poor garden is thyself. Thou straitly commanded us, on pain of instant dismissal, that no gardener should leave on any plant a drying, unsightly seed vessel. Thou wouldst not let thy loveliest plants follow the course of nature and produce new plants of the same rare kinds. Moreover, thou hast sent thy servants hither and yon in search of goodly seed; so willing have been thy people and so dear is their Queen to them that they have freely given all the seed of their rarest flowers, withholding absolutely none. We have seen the impending doom, but have feared to tell thee. No gardener, however good, can produce flowers for which there are no seeds. Thou shouldst have ordered us to save the rarest seed, even if for years the Queen had only the poorer kinds, which yet are beautiful. Hadst thou done so, to-day thy kingdom would be full of choicest blossoms. Even the peasant's flower bed would bloom with heavenly beauty. Thy kingdom would be the garden spot of all the world."

The King stood silent until the gardeners felt affrighted. Then slowly, as one who speaks in dreams he issued a command. "I see my folly. Leave the gardens to the care of a few underlings. The rest of you go forth; search high and

low; *penetrate far villages; look in old neglected gardens; search in cities, towns, and countrysides. Perchance, even yet, in some far corner there still grow a few neglected blossoms of those choice kinds which filled the garden of my bride. And if ye find them, save them as gold, nay, not as gold, but as rubies and diamonds. Let not one precious seed be lost. And see that every seed of those best kinds is planted, tilled, and allowed to bear its fruit. Perchance even yet the gardens of my peasants may become like the garden of my bride."*

THE
BUILDERS OF AMERICA

CHAPTER I

THE countries of the world may be thought of as gardens. In each are planted abundant seeds which produce not only flowers, but weeds. Some of the seeds grow well, others poorly; some multiply exceedingly because they are strong, others die because they are weak. Some are left to multiply unheeded because they are common, or inconspicuous, or unattractive; others are in danger of being exterminated because their beauty causes every one to pick them so that none are left for seed.

Our own country—wherever it may be—may well be called the Queen's Garden, for to us at least, it is the best. The flowers in the garden are people.

The choicest flowers are those who make the country happier, more contented, purer, truer, wiser, or better in any other way. Such people are called Builders in this book. True Builders are primarily men and women whose brains are well balanced, well directed, and active; people of fine temperament, fine intelligence, and fine health. Such Builders have subdued the wilderness, created our institutions, developed our social system, and improved human health. They have invented machinery that multiplies the work of one man into that of a hundred; they have conquered time by speeding up man's work in a thousand different ways; they have lengthened man's working life by making the night as light as the day; they have linked the whole round world into a single unit wherein it will soon be possible for people everywhere to listen to the same speaker. Such Builders have spanned the continent with rails, plowed the sea with ships, and cleft the air with airplanes. They have evolved new systems of gov-

ernment, industry and commerce. They have promoted universal education, religion and philanthropy, and have sent

Highgrade - 1
Intelligence of normal 10 yr old -7½
Potential criminal - 1½
Balance-12½
Total - 22½ Babies
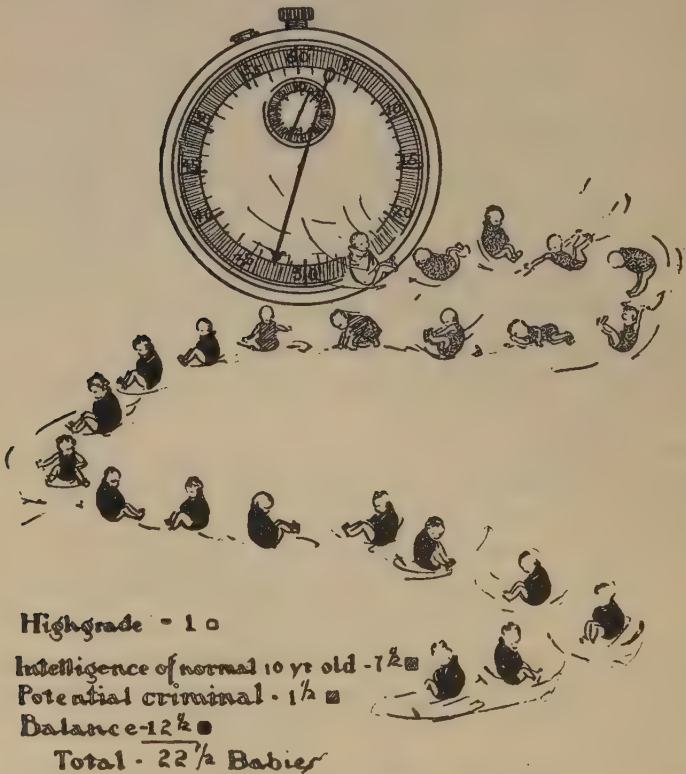
IN EVERY SEVEN AND A HALF MINUTES THERE ARE BORN IN THE
UNITED STATES 22½ BABIES. ONLY ONE OF THESE WILL AT-
TAIN A HIGH GRADE OF INTELLIGENCE. NOTE THE DISTRIBU-
TION OF THE BALANCE.

missionaries to the world's remotest corners. They have wrought a new thing in the shape of modern science. They are fast making it possible to direct the evolution of plants, animals, and even of man himself. And with all this, alas, the minds of those same Builders have often devised seemingly clever schemes which utterly defeat their own ends.

From birth till death men differ. They vary as much as do the flowers in the garden. In intellect, in temperament, in energy, and in training some rise to one level and some to another. The minds of some unfortunate persons never become more mature than those of normal babies. We call such persons idiots. The mentality of others, including both intellect and temperament, never passes beyond the average of the normal five-year-old child. We call them imbeciles. Still others never attain a mental development beyond that of normal children aged seven to eleven years; they are morons. It has been estimated that the dead line between uselessness and usefulness lies at a level corresponding to ten and a half years according to the arbitrary scale commonly used. Persons who fall below this threshold of usefulness cannot do enough productive labor to pay for their living after the excessive cost of supervision is deducted. They are a drain on society. No amount of training will ever make them a real asset.

The great bulk of our people lie above the threshold of usefulness, and have intellects which develop until the levels represented by twelve to fifteen years on the ordinary scale are reached. After each attains his or her respective level, few or no new powers develop, although training and practice may give vastly greater proficiency in the use of powers that already exist, while the experiences of life may cause a temperamental development which brings to each in due season the difference between maturity and immaturity. As the intelligence and temperament develop above the threshold of usefulness, a smaller and smaller amount of supervision is required until a person with normal intelligence and an adult temperament is capable of doing all the more common tasks of life without supervision. Such a person is capable of self-support in the sense of supporting himself and his family. If he and his family are temperamentally, as well as intellectually, normal, and are physically sound, they are a genuine asset to society. The ranks of such useful people contain all sorts,

including the faithful laborer, the steady clerk who will always be an underling, the carpenter who will never be a foreman or cabinet-maker, the kindly nurse who works by rule of thumb, and the plodding teacher who teaches "out of the book." In a world where common sense really prevails, every type below these plain, substantial, useful, but not intellectual people would doubtless be eliminated.

Above this level come the people who stand on their own feet, see what should be done and do it, make plans far into the future, and know how to lead. Such people are found in many walks of life, but all alike possess the quality of acting on their own initiative and of intelligently estimating the consequences of their acts. At the lower limit we have the wise young laborer who saves money, plans his work days ahead, and is kept on the payroll even in slack times for fear some one else will get him. Such a man becomes a foreman in due time. At the other limit are men like Lincoln, with the keenest of intellects, the most well-balanced and sanely progressive of temperaments, and the greatest of physical vigor. Such people of all grades, from the laboring foreman to Lincoln, are the greatest asset of society. They not only preserve the good things of the past, but add something new. They are the genuine Builders, the choicest flowers in the Queen's fair garden.

How many such Builders do we need, and how many have we? In the United States as a whole about thirty-three million men and older boys are gainfully employed. Approximately the same number of women and girls are either thus employed or are engaged in the care of houses and children. Obviously the major portion of this vast assemblage do not require more than the average degree of intelligence and education, and of temperamental and physical fitness in order to earn their daily bread. The coal miner, the waitress, the factory hand, the man who chops cordwood, the clerk behind the counter, the conductor on the street car, the street sweeper,

the scrubwoman—all these are exceedingly useful and neces- ·
sary members of society, but they do not need minds of un-
usually high caliber in order to perform their work and sup-
port their families.

Many positions of trust and responsibility, however, im-
peratively demand minds of high grade. The rapid increase in
the number of such positions is a noteworthy characteristic of
our times. A new invention, for example, enables one man
with brains to do the work of many whose main assets are
muscles. One man with a ten-ton truck hauls the earth that
formerly required twenty horses and ten drivers; one man
with a compressed air drill breaks up a flinty pavement in a
twentieth of the time needed by a man with a pick; another
pulls levers which enable a vast scoop almost as wide as a
street to devour sand and gravel by the cubic yard instead of
the shovelful. In similar fashion the locomotive engineer,
fireman, and conductor, and a brakeman or two, may safely
transport five hundred passengers four hundred miles in eight
hours, a task which formerly would have required perhaps
fifty coach drivers for five long days.

Turn to the city and see how the telephone, dictaphone, and
telegraph, together with railways, automobiles, steamships, and
airplanes, enable one man to conduct thousands of times as
much business as was possible for a similar man a century ago.
Each of these tasks, if it is to be done in the best way, requires
men who surpass their predecessors in intellect and training,
in the even balance of their temperaments, and in resistance to
the physical strain of constant calls upon the nervous system.
Even when an individual of no special intelligence can replace
an office full of clerks by using an invention like the adding
machine the nervous strain on the worker and the demand
for a good physique and a well-balanced temperament are
greater than ever before. Moreover, the invention and manu-
facture of such machines require large numbers of persons of
unusual ability.

In every walk of life the brains of the Builders are daily creating new complications with which the man of muscle alone cannot cope. Thus the demand for Builders increases with every step in the elaboration of the complex thing known as civilization. When our population begins to press heavily upon our resources, a state which is rapidly approaching, the need of healthy men with brains rather than muscles, and with the temperament that makes people industrious, progressive, self-controlled and adjustable, will increase rather than diminish.

How many Builders are needed in the United States? And how many are available? The answers to both questions depend first upon our definition of a Builder. They depend also upon how we measure people's capacities, and upon many other conditions as to which exact data are not available. Hence only the roughest of answers can be given. Nevertheless such answers may serve a useful purpose if they call attention to the gap between the supply of Builders and the demand for them. If that gap is not growing, let us thank God and take courage. If it is growing, as seems to be generally agreed, the sooner we realize the full significance of the fact and do something about it, the better.

In order to find out how many Builders are needed, let us estimate how many people in each main occupation ought to be of the Builder type if the United States is to maintain and improve its position. Let us confine ourselves to men, because no exact data are available for the millions of women whose work is in the home. We may safely assume that superior women are needed in the same number as superior men. Among the thirty-three million men who were gainfully employed in the United States in 1920, approximately ten million were farmers. In order that agriculture may occupy its rightful position in this country, what proportion of the farmers ought to be of the Builder type? Take, for example, a township where the population consists mainly of one or two hun-

dred families of farmers. If such a township is to prosper and maintain the best American standards, it obviously needs at least a few local leaders, and a much larger number of lieutenants who follow the leaders promptly. Leaders and followers alike must keep up more or less with the affairs of their state and country, and even of the world, as well as with local affairs. Otherwise they cannot judge how a given policy will affect not only themselves and their neighbors, but the whole community, for which they are responsible through their votes and otherwise. They must have temperaments which enable them to come to a decision impersonally, dispassionately, and with reasonable promptness. In order to make themselves effective they must be able to present their ideas to others moderately, judiciously, and convincingly. They must not be easily turned from their purposes by opposition or difficulty, and yet must be quick to see mistakes and to adopt a new course when once a mistake is pointed out.

In addition to all this the farm leader and his competent followers must keep up with the march of events in their own occupation. They must be able to weigh the different accounts of a new invention, such as the silo and tractor once were, and to decide intelligently whether it meets their requirements and is practical. Others may scoff at such new-fangled notions, but the farmer who is a Builder pays no attention to that. He takes a trip to the next county to see the new device in operation, talks with the most intelligent of his neighbors, and decides on the merits of the case. Thus he takes a real step of progress. Another Builder does the same thing in regard to a new breed of cattle, a new crop, or a new way of caring for the forest. Builders with a talent for organization are also greatly needed—men who are able to persuade their neighbors to purchase machines coöperatively, or pool their products and store their surplus so as to sell in large quantities and command good markets. Such men are needed to enable the farmers to make contracts far ahead, and allot the space

in their fields in proportion to the probable demand and price of each product. Another leader takes a deep and intelligent interest in religion, education, or government. He is a pillar of the church, and serves on the School Committee, or as selectman.

No one farmer is likely to be a leader, or even a lieutenant, in all these lines of progress, but those who promptly appreciate the good work of their neighbors, and have the good judgment to follow suit, are likewise Builders. Thus the Builders include many plain honest people who are not known outside their own community. But all of them are good men and true, who look forward and not backward, up and not down, outward and not inward, and lend a hand. Among a hundred farmers in the East, the West, the North, or the South, how many such Builders are needed to leaven the lump, put farming on its feet, and make our agricultural population as strong and vigorous as it was a century or more ago? Are five in every hundred enough? Or ten? Or twenty?

If our farmers are to maintain what we proudly call the American standards, if they are to make a permanent success of local self-government, and render farming a highly respected and desirable profession, at least one farmer in ten, and probably one in five, ought to be a Builder. That means that one or two million farmers ought to be Builders—let us say a million and a half.

How about the million men engaged in mining? Obviously the 34,000 operators, officials and managers ought to be of as high grade as the plain, high-minded farmers who have just been described. Should the 37,000 foremen, overseers and inspectors also be of the same type, although perhaps not equally able intellectually? That they are not of this type is all too obvious, and neither are a large number of the higher officials. Will mining ever cease to be one of the most undesirable, most poorly paid, and most badly organized of occupations until the force of circumstances brings into it a much

A clear example showing how the inventive genius of Builders serves to replace manual labor. The same work is being accomplished in each case.

larger percentage of high-grade men? How can we expect the
miners' unions to be wisely managed unless they contain a fair
proportion of men with reasonable, progressive temperaments,
and with a considerable degree of intelligence? It seems to us
that in the mining industry the foremen, overseers, and in-
spectors ought certainly to be Builders. But even thus our
American standards and ideals cannot permanently prevail
unless the rank and file of the miners comprise also a con-
siderable number of young men of similar kind who in due
time will rise to higher positions. Even if only one in twenty
is of this kind, that makes about 120,000 Builders when these
are added to the two groups of officials already mentioned.

It would be tedious and unnecessary to discuss the other
great occupations in the way that we have discussed farming
and mining. Suffice it to say that we have gone carefully
through the whole list as given in the census and have made
what seem to us conservative estimates like those for farmers
and miners. The following table sums up the minimum num-
ber of intelligent, reliable, industrious, self-controlled, tactful
and progressive Builders which each main type of occupation
seems to require according to the standards described above.

Occupation	Number of Men Engaged in Oc-cupation, 1920	Number of Builders Required	Percentage of Builders Required
Domestic and personal service..	1,218,000	120,000	10
Mining and quarrying	1,087,000	120,000	11
Clerical occupations	1,700,000	250,000	14½
Agriculture, forestry, fishing ..	9,869,000	1,500,000	15
Manufacturing and mechanical industries	10,888,000	1,890,000	17
Transportation	2,851,000	810,000	28
Public Service	749,000	230,000	31
Trade	3,575,000	1,390,000	39
Professions	1,127,000	1,000,000	89
Total	33,064,000	6,210,000	19

It is easy to criticize this table. The size of the figures in
the two right-hand columns depends wholly on our individual
judgment as to how many able and intelligent men are needed,

and upon our definitions of "able," "intelligent" and several other words. The reader can easily remake the table for himself, and the revision may be better than the original. This much, however, is clear; if all of the six million positions for which Builders are required according to our estimate were actually filled by Builders, this country would approach a reasonable ideal instead of being far below that ideal. Conditions like those in the table might well be our goal. Can we get there in a generation? A century?

THE ROLL CALL OF THE BUILDERS

IT is not enough to know how many Builders are needed. We must also know how many there actually are. This question is even more difficult than the other. Here, as before, we can make only the roughest approximation, and the reader must modify it to suit himself. The obvious starting point seems to be the Army tests made during the World War. There has been considerable disagreement as to the actual meaning of those tests, and as to the accuracy with which they really measure innate intelligence as distinguished from training. They have been especially assailed because some of their interpreters have made rather positive statements as to the mental ages of various classes of the population. They have likewise been assailed with greater justice because they give an advantage to persons who have had good schooling and to those whose mental powers are of the kind which profit by schooling. Nevertheless, practically every one agrees that the tests furnish the best available cross section of the native intelligence of the American people.

Bear in mind that the tests were designed to measure the fitness of the young men of the United States for the army. The very superior and superior persons of classes *A* and *B* were supposed to be "officer material," *provided they displayed the necessary qualifications in other respects*. Any one who has served in the United States army is well aware that while the officers are as a whole a fine lot, many have intellects which are not a whit above the lower level that we have set for the Builders. In addition to this, no small percentage display temperamental qualities which seem to unfit them

for really constructive work in the social fabric. We think that Major Albert W. Draves is going rather far in the following quotation, but his words are worth listening to, for he knows whereof he speaks:

"When the Mexican Punitive Expedition occurred in 1916 fifty per cent of the officers called for service in the National Guard, where no exacting standards were imposed, were incompetent, except under the rigid supervision of a high quality man. Offences against 'standards' were embezzlement, murder, robbery, theft, besides many cases of absolute neglect of duty to the prejudice of the health and life of soldiers under their care. As a member of several investigating boards, I can state that officers in our World War were found who possessed no knowledge of reading or writing and who did not know where France was! One captain admitted that he didn't know what country we were fighting! This captain had had a commission for 24 years."

Extreme as this statement is, it brings out the important fact that the minimum standards for army officers are by no means higher than those which ought to prevail among people who are true Builders of their country. This is not because the higher officers of the army are content with poor material, but because if the standards are set too high, there will not be men enough to fill all the positions. The case resembles that of practically all kinds of business. Many of the foremen in mines, for example, are a rough, ignorant lot with no great intelligence and with rather unpleasant temperaments. This is not because the mine officials want such men, but because they cannot get better ones. The better men go to pleasanter jobs. But if there were enough good men so that all the pleasanter jobs were filled, and some high-grade men were still unoccupied, such men might become mine foremen. The immediate result would be a marked improvement in mining conditions, such as occurs quite regularly whenever the officials, foremen and overseers are of a genuinely high type.
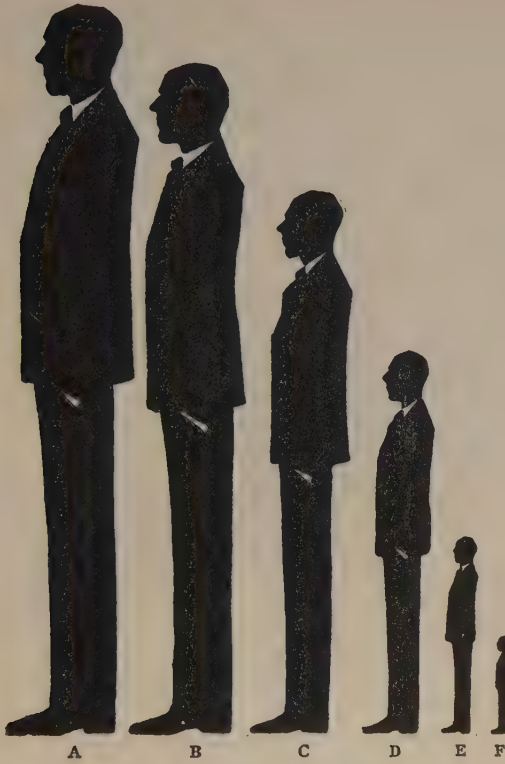
A THE WHITE POPULATION OF THE
UNITED STATES IS APPROXIMATELY 100,000,000
B DEDUCTING THE "VERY INFERIOR,"
THERE REMAIN APPROXIMATELY... 92,900,000
C DEDUCTING ALSO THE "INFERIOR,"
THERE REMAIN APPROXIMATELY... 75,900,000
D DEDUCTING THOSE OF "LOW AVER-
AGE," THERE REMAIN ONLY....... 52,100,000
E THIS FIGURE REPRESENTS THOSE
ABOVE "AVERAGE" INTELLIGENCE... 27,100,000
F HERE ARE THE 12,000,000 ABOVE "HIGH AVER-
AGE" INTELLIGENCE. OF THIS 12,000,000 ONLY
4,000,000 ARE RATED "VERY SUPERIOR."
THESE CATEGORIES AND FIGURES ARE BASED ON
THE UNITED STATES ARMY STANDARDS AND
RECORDS OF INTELLIGENCE.

To return to the army, although the standards of intelligence for officers were not very high during the World War, only twelve per cent of the men in the white draft ranked in grades *A* and *B,* and thus were accounted as "officer material." If our standard for Builders is put at this same level, which seems by no means too high, only twelve per cent, or approximately four million of the thirty-three million men who are gainfully employed, are of sufficient intelligence to fill the six million positions which need men of the Builder type.

This is by no means the whole story. A man with the keenest intellect may be almost useless if he has a lazy disposition, if he is so cautious that he generally comes to a decision too late for action, if he is mentally unbalanced, or if he habitually fails to control his emotions. So far as has yet been discovered, there is only a slight correlation between intellect and temperament. A man with a brilliant intellect may be extremely unstable emotionally, while a stupid man may be highly industrious, reliable, self-controlled and easy to get along with. Most of us know many cases of just such kinds. In the absence of any exact data let us suppose that the percentage of persons who are temperamentally fit to become Builders is twice as large as the percentage who are intellectually fit. Unless the correlation between intellect and temperament is much greater than yet appears, even this liberal allowance means that only a quarter of the four million men who are intellectually fit to be included among the Builders are also temperamentally fit. Not much more than a million men, then, who are really fit, although six million are needed.

Even yet we have not seen the worst. The army tests agree with many other lines of observation in showing an alarming number of important physical defects which weaken people so much that they cannot be fully efficient. About twenty per cent of our young men between the ages of twenty-one and thirty were rejected because of physical defects. Some of

the defects, like poor eyesight and bad teeth, might not seriously diminish a man's usefulness, provided they were properly cared for. Nevertheless, physical defects reduce still further the number of men who are really effective Builders. But let the number stand at one million. We do not know whether this is too large or too small in comparison with the six million who ought to be of our Builder type. But this much we know with certainty:—the number of people who are competent in intellect, temperament and body is pitifully small compared with the number who are needed. In this fact lies the greatest menace to the future of civilization. Or rather the menace lies not only in this, but in the further fact that the demand for such men in proportion to the population is steadily growing, while the supply is diminishing.

The dearth of superior people is not a theory, but a fact. All over the United States business men deplore the scarcity of good executives. This is the weakest point in our industrial system. A poor executive may tear down structures which have taken years to build. He may be envious of more intelligent men in positions below him, and may try to keep them down. He may lack the ability to select capable men; his tendency usually is to choose those whom he can dominate because they are his inferiors. This is no imaginary dream. It is an actual fact, a stone wall against which modern business has run. Here is an example. Not long ago a well known corporation employed a new sales manager at $50,000 a year. After four months they found him incompetent. To discharge him and pay him a full year's salary was cheaper than to keep him and let him demoralize the organization. Hundreds of such cases occur yearly on a large scale, thousands on a small scale. Is it because such men are poorly trained, or because they lack gray matter and have some temperamental weakness?

Read Bradstreet's summary of business conditions and see what it indicates as to the causes of failures. In 1924 there

were nearly twenty thousand failures in the United States with liabilities of about seven hundred million dollars; in 1925 nearly nineteen thousand with liabilities approaching five hundred million. Here are the percentages of failures which the Bradstreet Company assigns to various causes:

PERCENTAGE OF FAILURES DUE
TO FAULTS OF THOSE
FAILING, 1924–1925

Incompetence (irrespective of other causes)	35.5
Lack of capital	33.1
Inexperience (without other incompetence)	4.4
Fraudulent disposition of property	3.5
Personal extravagance	1.8
Neglect of business (due to doubtful habits)	1.3
Unwise credits	1.2
Speculation (outside regular business)	.4
Total	81.2

PERCENTAGE OF FAILURES, 1924 AND
1925, NOT DUE TO FAULTS
OF THOSE FAILING

Specific conditions (disaster, war, floods, etc.)	15.4
Competition	2.0
Failure of others (apparently solvent debtors)	1.4
Total	18.8

"A man himself is mainly responsible for his own success or failure in commercial life." That is the way the Bradstreet Company summarizes the whole matter. Four times out of five, according to their figures, some one's lack of intelligence, lack of self-control, or lack of the right kind of temperament is responsible for financial failures. The same causes are responsible for bank closings, bucket shops, fake bonds, the failure of salesmen to make good, the wastes in the real estate business, and the notable laxity in all sorts of enterprises. Lack of capital, for example, is generally due to some mistake in running the business, some unwise venture, or some temperamental quality whereby the persons who need capital are unable to persuade others to invest in their enterprise. Inexperience is often merely another name for poor judgment, for the failure to judge one's own capacities leads

many people into circumstances where their lack of experience is costly. Unwise credits are another form of poor judgment. The other items, fraud, extravagance, neglect and speculation, are usually the result of defects of temperament whereby a man is not able to control his actions by means of his judgment.

What is true in business is also true in other lines. School boards are constantly beset by the difficulty of obtaining really good teachers. All too often the schools are taught by teachers whose intelligence is below that of a goodly percentage of their pupils, and whose temperaments are not at all adapted to the training of children. Yet in our hidebound fashion we forbid married women to teach in many of our schools, even though such women may be of the highest caliber and have the additional advantage of an intimate experience of motherhood and the rearing of children.

Lack of superior intelligence and of a well-balanced temperament stand among the major causes of rottenness in our governments, national, state and city; they are a prime cause of yellow journalism, poor books, shyster lawyers, and easily bought injustice; of low art, weak sermons, quack doctors, cruelty to animals, and cruelty to children; of poorly prepared food and consequent malnutrition, disease, squalor and misery in many of our homes and institutions; and of a host of other evils. Such lack of superior qualities is the underlying reason for the need of so much charity, as we call it, and for the fact that a large part of our charity, well meant as it is, merely puts off the evil day and thus necessitates more charity, and then still more.

Is it not plain that the positions which demand superior persons are vastly more numerous than are the people competent to fill them? Many are called, but few are fit.

CHAPTER III

THE small number of Builders is bad enough; the steady diminution in their number is still worse. A relentless war is being waged against almost all kinds of Builders. In the past, wars may have had more advantages than in our day. Hand-to-hand conflict may have killed off the weak and stupid more rapidly than the strong and canny, but perhaps it also killed the brave and adventurous more often than the cowardly, who ran away, and the stupid, who were too "feckless" to be worth bringing into battle.

In our own day the same sort of contradictory conditions prevail, except that the grim balance is more clearly in favor of loss. Our modern wars mean loss of money, morals, health, and manhood, but worst of all they mean loss of children to form the next generation of Builders.

Read the official books describing the methods of selection employed in the great armies during the World War. See how the men were sifted out by tests of physique and health, by mental tests, and by all the tests summed up in General Crowder's *Spirit of Selective Service*. Talk with the officers or read their correspondence, and see how they bent every effort, and are still doing so, to obtain the best men in every possible respect. They were doing their duty; they would have been remiss if they had done otherwise.

But sit down and think it all out cold-bloodedly. Here is a stupid man—reject him; here is a hunchback—reject him; here is a man whose eyesight is deficient, but whose mind is good—put him in a safe place in charge of stores at a seaport. Here is another who has a fine physique, but is ugly

and hard to manage—put him in a labor battalion where he can work behind the lines. Here, on the other hand, is a clean-limbed, clear-eyed, earnest young fellow with an indomitable spirit, and with the will to obey as well as to command. He is just the kind to be made a non-commissioned officer and sent into No Man's Land among the falling shells, or let us make him a second lieutenant and give him a squad of the best boys we can find to go out at night and silence that machine gun over yonder. Yes, we may silence him and his squad forever, but that is war. Here is another of still higher caliber, the best all-around student, athlete, and moral leader in his class at college. He will make an ideal aviator. Of course, the chances are that he will never live to finish his course in college, or marry that girl who has thrown herself into Red Cross work with such intent enthusiasm. But what can we do about it? We must have aviators to win the war; none but the *best* are fit for aviators.

Read the army reports and correspondence once more. Tell us how much you find about selecting the best for service at the front, on the one hand, and about rejecting the best, and sacrificing the worst on the other hand. The latter idea seems never to have entered the heads of those in command. And if it had entered their heads and borne fruit, who would have won the war? You cannot have war unless you sacrifice the best. At least you cannot have successful war. Not even in times of peace would the officers in the world's best armies think of selecting the mental defectives for military service, as is said to have been done recently in Spain.

Worse, if anything, than the death of so many of the finest young men in war is the ruin of the health and morals of a still larger number. It is hard to tell whether the harm done by war to health or to morals is greater. War is usually accompanied by epidemics. Perhaps the epidemics are not wholly bad; they probably tend to weed out those who cannot withstand disease. But what of the venereal disease which accom-

panies every war and lasts long after the war is finished? It maims, it stigmatizes, it sterilizes, it kills. Worst of all, the sinner is not the only sufferer; the innocent also suffer—the wife, the children, and even the children's children. War is always beastly and immoral. The segregation of the sexes which it causes, and the collection of degenerate women around the camps to prey on the soldiers, tend toward grosser and more widespread immorality than is found under almost any other conditions. Young men of a type so high that they would normally escape often fall victims to their bad surroundings. After the war the reaction from stern effort tends to produce a further lowering of all sorts of standards. Decades are generally required for a country to return to the moral level of the days before the war. All these conditions combine with the evil lessons of the war to cause venereal diseases to be vastly more rife and vastly more dangerous than normally.

In spite of boasted remedies, syphilis alone is reported as causing one death out of every 250 in the United States in 1910, and one out of 136 in 1917 when our soldiers were concentrated in camps. But the majority of physicians dare not record the deaths of supposedly respectable people as due to this cause, or at least they prefer to assign them to accompanying causes which do not carry so great a stigma. If all these deaths are ascribed to syphilis as they ought to be, that disease, according to such authorities as Dr. William Osler, killed one person out of every six and a half among those who died in the United States during the war, and one in eight as late as 1921. Thus syphilis is 50 per cent more dangerous than tuberculosis; and nearly twice as dangerous as pneumonia, or cancer, even in normal times. War brings syphilis to hundreds of thousands of fine young men who otherwise might escape it.

War also increases the prevalence of gonorrhea, which is the chief cause of sterility and the principal contributor to the

gynecological wards of hospitals. According to Dr. Osler, this disease "costs the country annually thousands of lives, thirty to forty per cent of all congenital blindness, chronic pelvic mischief in women, and the unhappiness of sterile marriages." "A conservative estimate," says Dr. Bundesen, of the Chicago Department of Health, "shows that these venereal diseases cost at least $300,000,000 a year in reduced efficiency" in the United States alone. And how much do they cost in Builders who never are born or whose efficiency they greatly diminish?

The temporary loss of money, morals, and health through war is only a drop in the bucket compared with the permanent loss of the children who might have been born. Perhaps Belgium was not so badly off as we believe. Her institutions were, indeed, shattered, her people were hungry, disease ran riot, the able-bodied people were set at forced labor and some were actually carried off to Germany. But who died under such circumstances? Was it the strongest and finest of the young men? Not if the Germans could help it. Many such men did, indeed, remain with the Belgian army or escape by stealth to join it, but thousands of others were forcibly prevented from joining their fighting comrades. Chafe as they might, they were saved by the German conquest of their country. Who died in their stead? All sorts of people, but chiefly the defectives, the people who were physically weak or mentally stupid. They are always the first to succumb when civilization is upset.

England was safe from the Germans because protected by the sea and by the unwhipped British navy. Good luck for her? Ah, no! Her best and bravest went over the sea to die, but civilization never broke down in England; the insane asylums suffered little, if any, and the paupers were fed as carefully as the able-bodied. Moreover, the incompetent found jobs at high wages. They could marry young, and raise many children to replace those who might have been born to the brave young officers who are dead, and to the

cheery, competent girls of the Red Cross and the Y who will never marry now. Victory or defeat, which is better in the long run?

The wars thus far considered have been mere surface affairs. Gunfire, sword, agony, and physical death have made them very real to some, while drums, tinsel, and the appeal to patriotism have often made the non-combatants feel that they too were making a great sacrifice, even when they were enjoying great profits. But war, which has been defined as "a state of hostility," does not need shrapnel, swords, bands, uniforms and high taxes in order to manifest itself. A far more deadly, but almost unnoticed war is going on daily in our midst.

In his little poem, "The Woodpile," Robert Frost tells what he saw one day when walking through the woods. Coming to a decaying wood pile, he was astonished that any one should spend so much effort in chopping the wood and carefully piling it, and then forget his efforts.

> "I thought that only
> Some one who lived in turning to fresh tasks
> Could so forget his handiwork on which
> He spent himself, the labor of his axe,
> And leave it there, far from a useful fireplace,
> To warm the frozen swamp as best it could
> With the slow smokeless burning of decay."

The slow smokeless burning of decay! That is the kind of war that is being fought in our Republic. It is a war more destructive than any war of gunfire or sword play in which America has ever participated. Yes, more destructive than any such war in which any nation has ever participated. And its anguish is more heart-rending than that of any other war. This is no war of physical strength. It bears to that sort of conflict the same relation that the burning of the woodpile bears to the usual kind of burning. It is a war of smokeless decay. It began in the early days of our Republic; it will be

waged until one side or the other is victorious. On its out-come depends the future of America.

When the Nations of the world became embroiled in the Great War, almost every one knew that something was happening. To-day only a handful of people realize that this destructive battle is being waged in America. Nor is America the only country where a war of smokeless decay is in progress. We see evidences of such a war in every civilized country. History shows us its results in Greece, Rome, and many another ancient civilization.

Just what is this war in our Republic? It is a war against the children of the Builders. The enemy is firmly entrenched, and the Builders are being slaughtered with alarming speed. At the present rate most of the loveliest flowers of the Queen's garden will soon be merely a memory. The only defense lies in the intelligence and conscience of the thoughtful people of America. But how do we know that the situation is really so dangerous? Are we not being frightened by mere talk? Has not a similar situation prevailed time and again in the past, and has not civilization made progress in spite of it?

The only effective way to answer these questions is to look carefully at the facts. What we need to know is how many children there ought to be in the average family of Builders and how many there actually are. Then we must find out whether the situation to-day is appreciably different from what it has been in the past. The proper number of children in the average family of Builders depends on our aim—the purpose for which we bring children into the world. Our main purpose, of course, so far as we have any, is to satisfy the innate love of children which exists in the heart of almost every normal adult. Another purpose, after we have one or two children, should be to provide those children with the best possible environment—the intimate companionship of other children near their own age. These are the personal purposes. In addition to this the highest types of people recognize a

social purpose in bringing children into the world. That purpose is primarily to make the world a better place in which to live. This last purpose can be accomplished in full only if the Builders have enough children, not only to maintain, but to increase their proportion among the population as a whole.

Here let us pause to emphasize a point of the highest importance. The program advocated in this book is equally important and reasonable, no matter whether we place the chief emphasis on environment or heredity. What we need most of all is more children from the right kind of homes, regardless of whether those homes owe their quality to training or inheritance. In spite of frequent assertions as to the great number of leaders who spring from the humblest origin, the facts indicate unmistakably that the leaders come from the classes of society which we have defined as Builders. For example, among the persons in *Who's Who in America* for 1922-23, Professor Stephen S. Visher has found only one son of an unskilled laborer for every 48,000 such laborers in 1870, that being the census year nearest the average date of birth of the persons in *Who's Who*. Skilled laborers and artisans such as carpenters, plumbers, and mechanics produced thirty times as many leaders proportionately as did the unskilled laborers. Their score was one son or daughter in *Who's Who* for every 1600 families. Farmers did twice as well as skilled artisans. But contrast this with clergymen among whose children one for every 20 potential fathers is listed in *Who's Who*. In other words, the child of the average clergyman, taking all denominations together, is about 35 times as likely to be a conspicuous leader as is the child of a farmer, 80 times as likely as the child of a skilled artisan, and 2400 times as likely as the child of an unskilled laborer. The child of a Unitarian minister ranks still higher, for such a child is three times as likely to be distinguished as is the child of the average minister, and nearly 7,000 times as likely as the

48,000
Unskilled Laborers

1,600
Skilled Laborers

690
Farmers

46
Professional Men
(except Clergymen)

20
Clergymen
of all Denominations

7
Unitarian
Clergymen

Produced one eminent son or daughter
in Who's Who for 1922-23

child of an unskilled laborer. Look at the following figures
and see how the matter stands.

	Number of Men in Each Occupation Per Eminent Son or Daughter in ("Who's Who," 1922-23)
Unskilled laborers	48,000
Skilled laborers	1,600
Farmers	690
Engineers (chiefly non-technical)	160
Physicians	104
Methodist clergymen	97
Business men	80
Lawyers	52
Professional men except clergymen ...	46
Baptist clergymen	43
Sea captains and pilots	42
Clergymen of all denominations	20
Presbyterian clergymen	11
Episcopal clergymen	9
Congregational clergymen	8
Unitarian clergymen	7

The leaders of America evidently come in far larger pro-
portions from homes where high moral and cultural standards
prevail than from those of laborers, artisans and farmers.
They come from the homes of the Builders, especially the
Builders who are strong morally as well as mentally. No mat-
ter whether the strength of these homes is due to inheritance
or training, or to a combination of the two, it needs no proof
to show that the greater the proportion of children in such
homes, the greater will be the number of valuable leaders.
Hence in this book the general line of reasoning and the
general conclusions are the same no matter whether we place
more stress on inheritance or training. Fine children in good
homes, and enough of them to maintain their proportion in the
total population, should be our aim if the war of smokeless
decay is to be won.

CHAPTER IV

THE SIZE OF AMERICAN FAMILIES

IF the proportion of Builders is to increase ever so little, the number of children who survive and become parents must obviously be larger in the average family of Builders than among the rest of the population. How many children does that mean? No one can answer exactly because this great and backward country of ours has never found out how large its average family is. We know the number of pigs in an average litter and of litters born to the average sow; we know how many calves each cow bears on an average; and we have the fullest data as to how many eggs are laid per year by the hens. But nobody knows how many children are born to the average mother. Until the Census Bureau obtains the exact facts, the best we can do is to make estimates. In an address as President of the American Statistical Association in 1924 Dr. Louis L. Dublin of the Metropolitan Life Insurance Company estimated that in order to maintain our population at its present level without either increase or decrease, and without either immigration or emigration, it would be necessary that each family which has any children should have an average of 3.1. In other words so many people are unmarried or else have no children though married that this number of children is needed to balance the deaths and thus maintain a stationary population without any growth from year to year.

An average of 3.1 children per family by no means represents the number of children needed among the Builders. If they are to hold their own, and perhaps increase a little in

proportion to other types of people, they must have many more than three children per family. The average among those who have children must be large enough, not only to replace the parents and their unmarried or childless contemporaries, but to maintain the present proportion of Builders in a population which is still increasing with fair rapidity. The increase due to births alone to be sure is by no means so large as is usually supposed. Doctors Dublin and Lotka have shown that when allowance is made for immigration and for the fact that immigrants tend to be young people of the age when they are most likely to have children, the annual rate of increase among the entire population of the United States in 1920 was only 5.5 per 1000 inhabitants. That is, the number of births among an average 1000 of our population was only five and a half greater than the number of deaths. When allowances are made for immigration and other factors, our real death rate in 1920 was 15.3 instead of 12.4 as appears in the ordinary figures, while our birthrate was only 20.9 instead of 23.4. We differ from a country like France by no means so much as we usually suppose. Nevertheless, our population is still increasing at a fair rate by means of excess of births over deaths. If the Builders are to increase at the same rate, those of them who have children must average approximately 4.1 per family. If the Builders are to gain in proportion to the population as a whole so that future generations may slightly excel the present generation in their proportion of competent, high-minded people, the number of children per family among the Builders must average about four and a half. If this is the average, families with five, six, seven and eight children must be numerous in order to balance those which have from one to four.

An average of four and a half children per family seems so large that the reader may well ask how we arrive at it. Let us start with one hundred married couples who have children. How many children must they have in order that the next

generation may comprise another hundred married couples who have children? If all the children lived, if as many as possible were married, and if all who were married had children, there would have to be 206 children to replace the two hundred parents. The number is 206 instead of 200 because 106 boys are born in the United States for every 100 girls, and the number of girls of course limits the number of married couples. But some children are sure to die before the age of parenthood. In order to be on the conservative side and thereby keep our average family as small as possible, let us say that this age is reached at 24 years. According to the *Northeastern States Mortality Tables*, based on the deaths from 1908 to 1912, only 77 out of every 100 children survive to the age of 24. Inasmuch as the death rate is now lower than in those years and is lower among Builders than among the population as a whole, we may assume that the number of survivors in our 100 families is 85 out of every hundred. In that case, in order that there may be a hundred married couples among the children, there would have to be a trifle more than 242 children.

The next factor to consider is the percentage who are married. According to the census of 1920, nearly ninety per cent of the women of the United States aged 35 to 44 years have been married, while among the men in *Who's Who* the percentage is practically the same. Among Harvard graduates, on the other hand, only about 75 per cent are ever married, among college women 60 or less, and among the women in *Who's Who* only about 54. If we call the percentage 80 for the Builders as a whole, we are probably fairly close to the truth. That obliges us to increase our 242 children to 303 in order to get 100 married couples.

One other requirement still remains to be met. We must have a hundred couples who are not only married, but have children. What percentage of married people have children? Here are some answers:

Per Cent

A. 16,000 native white American women who had been married 10
    to 19 years in 1900 when studied by the Immigration Com-
    mission in cities and on farms in Rhode Island, Ohio, and
    Minnesota 87

B. Harvard graduates of classes of 1851 to 1860 87

C. Men of full professorial rank at Yale University 80

D. Graduates of women's colleges .... 60 to 85

E. Harvard graduates of classes of 1891 to 1900 74

For the Builders as a whole, the rate is probably about 85
per cent. That makes it necessary for our hundred original
couples to have 356 children in order that among those chil-
dren there may be another 100 couples who also marry and
have children. In other words, if the Builders are just barely
to maintain their numbers *without any increase whatever,*
there must be an average of approximately 3.6 children in
every family where there are any children at all. If the
Builders are to increase fast enough to keep pace with the
growth of the general population through births alone, the
average number of children must be about 4.1. But the
country will be safe only if the Builders gain on the general
population so that their proportion increases a little from
generation to generation. In that case there must be an in-
crease sufficient to make up for whatever deficiency in good
building material there may be among our immigrants, espe-
cially among those who are bootlegged into the country illegit-
imately. Thus we arrive at a figure of about four and a half
as the number of children needed in the average family of
Builders if the future of America is to be safe.

Having seen what the birth rate among Builders ought to be
if that desirable element of our population is to maintain or
slightly increase its proportions among the population as a
whole, let us next try to estimate what the birthrate actually
is. The 16,000 native white mothers referred to above had an
average of approximately 2.8 children in the cities and 3.3 in
the rural districts, or about 3.1 for the whole northeastern
United States. Some of these women doubtless had children
after the census of 1900 was taken, but their large families

are probably almost balanced by the small families of women of the same generation who died young before the census was taken. Since Builders tend to migrate to the cities in larger proportions than do the rest of the population, and since city birth rates are low, we may conclude that if the proportion of city people were the same among these 16,000 women as among the Builders, the average number of children per woman would be less than 3.1.

By no means all native white Americans of native parentage are Builders. In fact by far the greater proportion are not Builders. The ones who are not Builders probably have the larger families, for in spite of important exceptions, the less competent classes of the population tend to have many children. Where else then shall we find data which really represent Builders? Perhaps the parents of Yale students are fairly representative of the Builder type. The 1600 native-born students of native parentage who received the A.B. degree at Yale from 1922 to 1926 came from families in which the average number of children is reported as 2.4.* Since the students rarely reported brothers and sisters who died in infancy, although reporting those who died later, we may conclude that the average Yale student of old American stock comes from a family averaging at least 2.6 children and perhaps more. On the whole, however, Yale students come from a social group having greater wealth than the average of the Builders; presumably the number of children in such families is less than the average. Hence the average Builder's family presumably numbers somewhat less than 3.1 children, which represents the approximate number of children per family among all persons of native white stock, and somewhat more than 2.6, which represents the probable number among the people who send their children to Yale.

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* This means the real average, obtained by reckoning *two* students as necessary to represent *one* family of four children, for example, and not reckoning each student as the representative of a separate family as is often mistakenly done. The sizes of the families in this book are always computed by this correct, but less usual method, wherever it is applicable.

Another group which well represents the Builders is the people in *Who's Who in America*. We shall study them fully by and by. Here it is enough to say that among several thousand whose families have recently been completed the average number of children is 2.8. But some of these men, like the Yale students, undoubtedly failed to report children who died in infancy, although reporting those who died later. If such children represent a tenth of the total, as appears to be approximately the case, the average family completed within the decade from 1915 to 1925 probably averages not far from 3.1 children. This, however, is probably greater than the average size of the families of Builders as a whole, for *at a given social level*, as we shall see later, the most successful people tend to have larger families than do the less successful. Of course, all Builders are relatively successful, but the people in *Who's Who* are exceptionally so. When we combine the facts reported by the Immigration Commission with those as to Yale parents and the people in *Who's Who*, it seems legitimate to conclude that the families of the Builders which are completed between 1925 and 1930 must average not far from 2.9 children. Even though this figure is a mere estimate it is so near the truth that its use can scarcely lead us far astray.

We now have before us two significant figures—2.9 as the approximate average number of children in the families of the Builders, and 4.5 as the approximate number required if the Builders are to hold their own and increase very slightly in proportion to the population as a whole. The difference between these two numbers represents roughly the extent to which the war of smokeless decay is slowly but surely reducing the percentage of persons of high intellectual and temperamental inheritance in the United States.

Let us next examine this matter of birth rates in another way. The United States Census Bureau has lately begun to collect accurate information from mothers when their children

are born. The data as to mothers between the ages of 35 and 45 years have been arranged according to the occupations of the fathers. Some such mothers will doubtless have other children. Moreover, the families of women who give birth to children at the ages of 35 to 45 average decidedly larger than those of women whose child-bearing career ends before the age of 35. Thus the census figures have the two-fold disadvantage of not dealing with *completed* families and of being based on a selected group of families which are larger than the average. On the other hand, they possess the great advantage of giving a uniform scale whereby the sizes of the families in different occupations can be readily compared.

Such a comparison appears in the table on the following pages. This includes the fifty occupations represented by the largest numbers of children. The figures actually given in the census tables have been reduced by one-third to allow for the many small families where the mother's child-bearing career terminates before she is thirty-five years of age. The reduction was set at one-third because this gives an average of somewhere near 2.9 children in the families of the Builders as a whole. This makes the figures somewhat smaller than the known size of completed families among the men of corresponding occupations in *Who's Who in America*, as appears in the data given in parentheses. This is as it should be, for the *Who's Who* men are unusually successful and hence likely to have relatively large families. Moreover this particular set of figures includes all men in *Who's Who* married before 1905. Many of them are relatively old and for that reason have larger families than prevail among a younger generation. Of course, the table as a whole is only a rough approximation to the actual truth, but the general order in which the occupations are arranged and the general size of the average family in the various occupations are not likely to be greatly changed even when full data are available.

GROUP I (3.0 OR UNDER)

Occupations of Fathers	Estimated Number of Children Ever Born in Completed Families *
Physicians	2.4 (2.7)
Technical engineers	2.4 (2.6)
Lawyers	2.4 (2.9)
Bookkeepers	2.5
Bankers	2.5 (2.8)
Teachers	2.6 (2.8)
Agents and canvassers	2.7
Factory officials	2.7 (3.2)
Insurance agents	2.9
Clerks in offices, etc.	2.9
Real estate agents	3.0
Average for 11 occupations (16,468 families)	2.6

GROUP II (3.1 TO 3.5)

Typesetters	3.1
Electricians	3.2
Men servants	3.3
Plumbers	3.5
Clergymen	3.5 (3.3)
Policemen	3.5
Mail carriers	3.5
Motormen	3.5
Average for 8 occupations (8,632 families)	3.4

GROUP III (3.6 TO 4.0)

Merchants	3.6 (3.4)
Machinists and mechanics	3.6
Chauffeurs	3.6
Builders and contractors	3.7
Locomotive engineers	3.7
Factory foremen	3.7
Factory engineers	3.7
Gardeners	3.8
Tailors	3.8
Bakers	3.8
Brakemen	3.9
Painters	3.9
Barbers	3.9
Carpenters	4.0
Average for 14 occupations (46,650 families)	3.8

GROUP IV (4.1 TO 4.5)

Janitors	4.1
Semi-skilled factory operatives	4.1
Masons	4.2
Firemen in factories	4.3
Plasterers	4.3

GROUP IV (*Cont.*)

Occupations of Fathers	Estimated Number of Children Ever Born in Completed Families *
Draymen	4.3
Blacksmiths	4.4
Shoemakers (not in factories)	4.5
	—
Average for 8 occupations (26,168 families)	4.2

GROUP V (OVER 4.5)

Factory laborers	4.6
Metal molders	4.6
Railway construction foremen	4.7
Railway laborers	4.7
Laborers in building trades	4.7
Farmers	4.7 (3.9)
Farm laborers	5.1
Miners (except in coal mines)	5.2
Coal miners	5.3
	—
Average for 9 occupations (141,366 families)	4.8

* A family is completed when death, widowhood, age, or any other condition puts an end to the child-bearing career of the mother. These estimates take account only of families where at least one child is born. Figures in parentheses indicate size of families of fathers in *Who's Who*.

At the beginning of the table, where the completed families number three children or less, stand physicians, technical engineers, lawyers, bookkeepers, bankers, and teachers. Such occupations attract a very high percentage of Builders; they represent the brains of the body politic. The other occupations whose small families place them in this first group also demand brain workers. They attract a high percentage of Builders even though the percentage among real estate agents may not be so great as among physicians or engineers.

In Group II, where the number of children per family runs from 3.1 to 3.5, the proportion of Builders is much lower than in Group I. We have passed from the work of the skilled brain to that of the skilled hand as represented by typesetters, electricians, and plumbers. Intermingled with the men among whom an especially high degree of skill of hand is required, come others with special qualities of steadiness and reliability such as men servants, policemen, mail carriers, motormen. Of

course, the degree to which people are engaged in brain work
is not the only factor which determines the order of the occu-
pations. Other highly important determinants include the eco-
nomic returns of each occupation, its social prestige, and
especially the degree to which it is urban versus rural. We
shall not stop to talk of these others, but the task of ferreting
out their effect is extremely interesting.

At first thought it is surprising to find clergymen in Group II
and merchants in Group III instead of Group I. That they
belong there is evident from the fact that not only the census,
but *Who's Who,* ascribes to these professions the largest fam-
ilies among the groups which contain many Builders. One
reason for this is that these two groups, far more than any of
the others thus far mentioned, live in rural districts. Country
ministers and the proprietors of little country stores make up
the majority. Other things being equal, rural people always
have more children than city people, the ratio being ap-
proximately four to three among the native whites of the north-
eastern United States. Nevertheless, some other cause may
lie still deeper, for among the people of *Who's Who* living in
the states from New England and New Jersey westward to
Illinois and Michigan, practically all live in cities. Yet the
merchants who report any children at all show an average of
3.4 and the ministers, 3.3.

In Group III of the census table, where the average number
of children ranges from 3.6 to 4.0, the merchants are the only
members who are not skilled artisans. This group includes no
occupations in which all the members are purely brain work-
ers, or in which more than a moderate minority are Builders.
The merchant prince or the executive of a great contracting
firm may stand high among the Builders and brain workers,
but such men are an insignificant minority of their respective
groups. The average merchant runs a country store, or a
little shop in the suburbs; the average contractor or builder,
taking the country as a whole, is merely a successful car-
penter. But note also that Group III contains no occupations

where the work is purely physical. Some genuine brain work is necessary in every case.

In Group IV, where the number of children averages 4.1 to 4.5, the skilled workers continue, being represented by masons, plasterers, blacksmiths, and shoemakers, but the percentage of Builders declines still further. One reason why these occupations show families larger than those of the skilled workers in Group III is that all except shoemaking are out-door jobs, or at least require great physical vigor. The most significant thing about Group IV, however, is that its general level falls distinctly below that of Group III. It includes such people as janitors, semi-skilled factory operatives, draymen, factory firemen, and the like, among whom mental activity more and more gives place to that which is purely physical. Thus as a whole Group IV falls as far below Group III as that group falls below Group II.

Finally among the occupations of Group V, where the average family contains more than 4.5 children, we find the great bulk of the American people, useful and valuable when properly led, but rarely able to achieve anything new unless led by Builders. In the census table they are represented by 141,000 families, whereas all four of the other groups are represented by only 98,000. Practically all of this group are laborers, farmers, or miners, people who represent muscle rather than brain. Their work is almost wholly physical, and the number of Builders among them is extremely small.

· The order in which the different occupations arrange themselves in our table becomes more and more significant as it is studied more deeply. Bear in mind that the order represents the degree to which the workers replace themselves through their children. But this arrangement clearly places the occupations in the general order of their dependence upon mind rather than muscle, and is the order of the proportion in which they contain Builders.

Some groups, such as farmers, do not stand quite where we might expect on the basis of their ability. The farmers have

larger families than the laborers, yet in shrewdness, self-reliance, forethought, and other good qualities, they almost certainly surpass the laborers by a considerable margin. But remember that the farmers include millions of colored people, a million or so "poor whites," many tenant farmers, and great numbers of shiftless, inefficient individuals such as remain in the backwaters of southern Illinois and in the rocky hills of New England. Moreover, farming is an outdoor, active, rural occupation, whereas factory work is indoor, sedentary, and urban. If the farmers lived under the same environment as the factory laborers, the number of children in their families would doubtless be considerably less than is now the case, so that they might perhaps fall in Group IV or possibly III. Yet in spite of many cases where other factors obviously play a part in determining the number of children, the outstanding fact is the logical and consistent increase in size as we pass from the occupations representing intellect and leadership to those representing mere muscle.

If we examine the whole course of human history, this is far from being the normal condition of mankind. Yet at the present time it prevails overwhelmingly in our own country and in most of the other highly civilized countries. Can it continue?

We shall try to answer this question later. Meanwhile let us inquire what would be likely to happen if the present differential birth rate should continue for a century or two. Figure 1 suggests how rapidly the present arrangement of large families among the incompetent, and of small families among the competent, is likely to prove self-destructive. It illustrates the rapidity with which our present social system permits natural selection to sort out the American people on the basis of their ability and achievement regardless of race and stock. The diagram shows what would happen in future generations if we started with a thousand fathers divided equally among the five groups of our census table. In order

to conform as closely as possible to the facts, let us assume
that the percentage of children who die before reaching the
age of 25 years rises regularly from 10 per cent for Group I
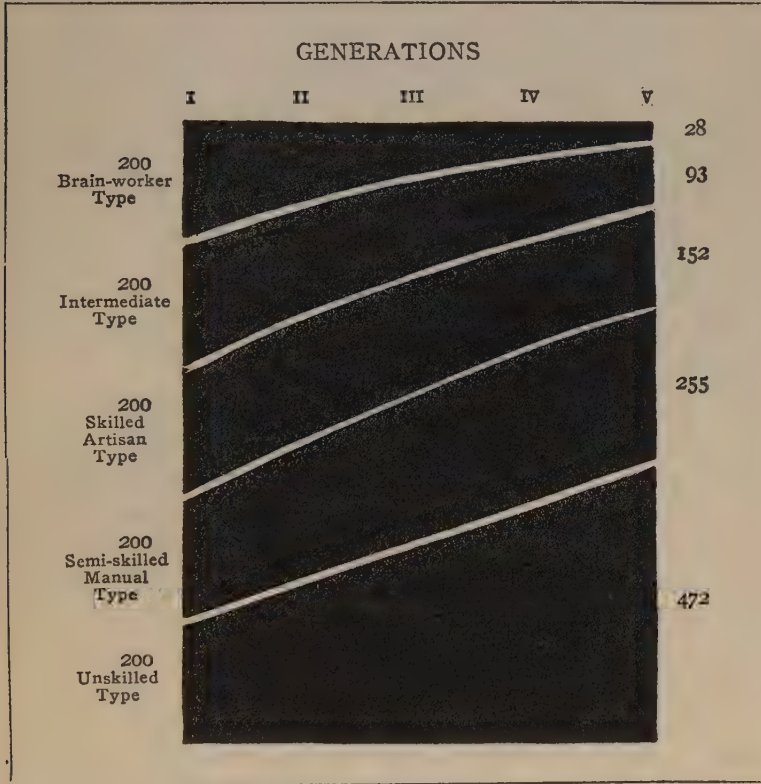with its small families to 26 per cent for Group V with its

FIGURE I.   THE CHANGING COMPOSITION OF THE AMERICAN
PEOPLE BECAUSE OF THE DIFFERENTIAL BIRTH RATE.

large families.   Let us also assume that the percentages of
unmarried people and of those who are childless though mar-
ried decrease regularly from 20 in Group I to eight in Group
V.   These assumptions agree quite closely with the facts.   So
far as they are in error, they probably minimize the difference
between the groups rather than emphasize them.   Thus they

cause the number of descendants of Groups I and II, where mental work and small families prevail, to appear relatively more numerous than they ought in proportion to the descendants of Groups IV and V, where physical work and large families are the rule.

For convenience we will also assume that the children of each of our five groups intermarry only among themselves. Of course, this is not quite what happens; the different groups do intermarry. Nevertheless, although the children of professional people marry those of business executives, they almost never marry those of janitors, laborers, miners, and only rarely those of skilled laborers. If the daughter of a physician marries the son of an unskilled laborer, the social circle of the physician holds up its hands in horror. The case may be so exceptional that it gets large headlines on the front page of the local newspaper.

In the diagram then, we start in the first generation with 200 married men in each of our occupational groups. In the second generation, among a thousand men descended from our five groups, each group no longer supplies 200 sons who live to marry and become fathers. On the contrary, the brain workers and Builders of Group I supply only 132 such sons against 266 among the laborers and farmers of Group V. With each generation the discrepancy becomes greater until in the fifth generation, that is, among the great-great-grandsons of our original 1,000, the 200 brain workers of Group I have dwindled to only 28, whereas the physical workers of Group V number 472 as appears in the following table:

APPROXIMATE DISTRIBUTION OF FIVE GROUPS OF OCCUPATIONS
IN SUCCESSIVE GENERATIONS

		Groups			
Generations	*I*	*II*	*III*	*IV*	*V*
First	200	200	200	200	200
Second	132	177	197	228	266
Third	82	149	185	248	336
Fourth	49	121	167	256	407
Fifth	28	93	152	255	472

Look at Figure 1 and see how the relative size of the groups varies from generation to generation. Consider what it means when the brain workers of Group I, which constitutes the head of the body politic, so to speak, are reduced to only about one-eighth of their former importance, while the skillful and reliable people of Group II, who form what may be called the vital organs, fall from 200 to 93; and the good craftsmen of Group III, who correspond perhaps to the sturdy torso which encloses the vital organs, become only 152 instead of 200. All these groups are relatively smaller than when we started; the reduction in the brain workers is pitiful. But the muscular arms, as it were, which form the semi-skilled occupations of Group IV have increased their proportions from 200 to 255; while the unskilled legs, Group V, number 472 out of every thousand. The body politic has become a distorted monster with a diminutive and dwindling head, and huge, unwieldy arms and legs. This is what is happening through the war of smokeless decay.

CHAPTER V

LOST CHILDREN OF THE COLLEGES

LET us pursue the question of the size of families a little further. Perhaps no single, well-defined group of people exceeds college graduates in influence, or contains so large a proportion of Builders. Harvard may serve as a typical example of the men's college. It is more extreme than some of the others, especially than those of the South, but the differences are merely of degree, not kind. Harvard shows where the rest appear to be headed. Its data are especially valuable because they have been compiled with unusual care by Doctor John C. Phillips. His results, together with similar figures for various women's colleges are summed up in tables 1 to 4 at the back of this book. Those who want details can study them there. For the general reader we shall here sum up the facts without going into particulars. Doctor Phillips' studies have been so carefully made and are based on so large a number of persons—nearly 11,000—that there can be no question as to their reliability. Moreover, they agree with those of Yale compiled by Doctor Phillips in the same way, and with those for West Point when officers killed in warfare are omitted. The figures for women's colleges are not based on so large a number of people as those for Harvard, and have not been checked quite so carefully. Nevertheless, there can be no doubt as to their general reliability.

The facts as to Harvard can be summed up very briefly. Only about three-fourths of the Harvard graduates who are now living are married, even when they reach the ages of fifty or more. This is no new phenomenon, for the classes who

graduated as far back as 1850 to 1860 actually show a lower percentage of married men than many of the later classes. The age at marriage is now about 31 years and is gradually rising, having been something over thirty a generation or two ago. The age at graduation has also increased similarly so that the interval between graduation and marriage is about the same.

The most important feature of Dr. Phillips' findings may be discussed in his own words:

"The most surprising and perhaps disquieting feature of all is the rapidly rising proportion of childless marriages. There has been an increase from about 15 per cent in the decade 1851-60 to 25 or 26 per cent in the class period 1890-1900. This rise has been progressive. In the ten last classes considered here it never got lower than 24 per cent and there is a gain of three per cent over the decade previous. It would be most instructive if we could investigate all the causes which entered into this result, but so far as I know, nothing of the sort has been attempted with similar figures. This proportion of childless marriages is far and away larger than it is for any other group that I have heard of.

"The actual mating sterility or constitutional infertility of the race as a whole is not easily reckoned. It varies, of course, with the age of the wives at marriage and is always lower among primitive rural groups where marriage is early. We can only guess at what this figure might be for Harvard families because we do not know the age of the wives. . . . But we may be permitted to hazard a guess that the age of the wives is not far from 28 years and that the expected mating sterility for such a group will not be less than 15 nor more than 18 per cent. Even this proportion, which is much larger than I had supposed before looking into the subject, leaves us with a large class of unproductive marriages, 6 to 10 per cent, which cannot easily be accounted for. If we agree with those medical authorities best able to judge, that the number

of families who do not desire at least one child is very small, almost negligible, then we must look elsewhere to account for our childless marriages over and above the normal mating sterility. We should like to know how many unproductive unions may be due to the direct or indirect results of even temporary prevention; how many to contraceptive medical advice, and so on. It is conceivable that a comparatively short period of prevention when the age of the wives is relatively high, as it is in the group we are considering, may account for a good many failures to produce children. The increasing frequency of divorce and separation may prove an additional factor, but I have made no study of this, nor do I think that the class records would be at all complete on this score. The actual fact that family ties are less permanent than they used to be becomes apparent on casual inspection of the class records."

But how about the number of children, which after all is the main object of our inquiry? Two facts are obvious. They would be startling if we were not already familiar with them. One is the fact that whereas in the families where there were any children at all, the average number was 3.6 for the classes of 1851-1860, it has fallen to only 2.6 for the classes of 1891-1900. Possibly a few more children will be born in the families of these later classes, and perhaps some who died in infancy have not been recorded, but judging by earlier records such circumstances will scarcely make the average for the completed family more than 2.9. The other fact is that when all the graduates, both married and unmarried, are considered, it appears that at no period since 1850—and no one knows for how long before that—have there been as many children of Harvard graduates as there were graduates, plus the wives of the graduates and the unmarried women who might have been the wives of the unmarried graduates. Even for the classes of 1861-1870, whose record is best, the average number of children falls just short of two; while for the classes of 1891-

1900 it falls below 1.5 and is not likely to rise above 1.6 even when the families of those classes are complete.

In order to understand just what this means, let us see how many sons the graduates of Harvard would be able to return to the old college if the children of Harvard graduates inter-married only among themselves. We can estimate this by means of Doctor Phillips' tables. Let us call the number of children per graduate 1.5, as it seems to be among the later classes whose families are complete. Let us say that 12 per cent of the children die before reaching the age of graduation. Let us also bear in mind the fact that on an average in the United States 106 boys are born for every 100 girls. Now let us suppose that all the sons of each class are concentrated to form another class 35 years after the graduation of the fathers. In that case the class of 1895, for example, which numbered 411 at graduation, would send 263 sons to form the class of 1930, and so on as appears in the following table:

Class of 1895............411
Class of 1930............263
Class of 1965............171
Class of 2000............119
Class of 2035............ 70
Class of 2070............ 45
Class of 2105............ 29
Class of 2140............ 18
Class of 2175............ 12
Class of 2210............ 8
Class of 2245............ 5
Class of 2280............ 3
Class of 2315............ 2
Class of 2350............ 1
Class of 2385............ 0

Of course the Harvard classes are going to keep on grow-ing, for the present at least. For all that we know to the con-trary, they may number several thousand in 2300 A.D. Much of the new material that comes to Harvard from families not previously connected with the college is doubtless as good as that from the old Harvard families. But even if it is as good, do we want to lose the old stocks with their fine inheritance,

not only biologically but culturally? Here again we may well quote Doctor Phillips who speaks as a Harvard graduate to other Harvard graduates:

"At the risk of appearing hopelessly pessimistic, I shall call attention to one more circumstance which may vitiate the analysis of future birth calculations for what we may call the old American stock at Harvard. Increasingly of late years the classes have been made up of a smaller proportion of men of English-speaking antecedents, and any one who cares to continue this study in the future will have to keep this in mind. In a rough analysis which I made of different races at Harvard for the class years 1850-1925 I found that whereas the class of 1850 was evidently composed of 95 per cent of English-speaking stock, the class of 1900 had only about 81 per cent of similar stock. . . . After 1900 there is a steady increase of the foreign elements with each succeeding class, whether for better or for worse it is not for me to say, until in the class of 1925 there was less than 59 per cent of what I have called the old or English-speaking group. It may be that the relatively superior fertility of these recent stocks might tend to balance an even further drop in the productivity of the older American stocks. This possibility must at least be kept in mind.

"Now, of course, the Harvard 'population' is not going to become extinct. We know that no group, unless it be some primitive tribe which cannot compete with modern social conditions and will not mingle with surrounding populations, does actually disappear; the less prolific mingles its blood with the more prolific and is carried on by them. But if we believe in the traditions that have made Harvard what she is, if we have faith in an intellectual independence and all that it means, we cannot help wondering what effects, what changes, the future mingling of the older with the newer elements is going to produce. Will the task ahead be easier because of the inevitable increase in our ethnic complexity and a corresponding dilution of our more homogeneous elements, or shall we be

confronted with unheard-of problems that will test the optimism of the most hopeful?"

The record of lost children is even sadder for college women than for college men. The most productive of the women's colleges, so far as children are concerned, stand about on a par with the least productive men's colleges. Bryn Mawr would be expected to have a poor record because of its highly intellectual character. Yet strangely enough, its average recent graduate has been the mother of more children than has the average graduate of most of the other women's colleges. The early record, however, is very low. Among the Bryn Mawr graduates from 1889 to 1899, only 45 per cent were married, while no less than 26 per cent of those who were married had no children. Thus the burden of replacing themselves, their husbands, their unmarried college classmates, and the men who might have married those college classmates, fell on only 35 out of every 100 graduates. In order to prevent the descendants of Bryn Mawr women from forming a steadily decreasing percentage of the population of the country, those 35 per cent would have had to have about eight children apiece. Of course they had no such number—only an average of 2.3 among graduates who had been married at least 24 years in 1924. Many of the early Bryn Mawr graduates lost the greatest joy of life, because they were the victims of a social system which they did not themselves create. Doubtless most of them wanted families, but they married late and wanted careers and self-expression more than children. A still larger number never married at all, so that the grand average for both the married and the unmarried is only 1.1 per graduate.

In the next generation of Bryn Mawr women, those graduating from 1900 to 1913, the percentage who are married rises to 54. Among those who had been married from 13 to 23 years in 1924, the percentage of childless marriages drops to 15.5. This last figure is not much above the normal for the

population of the United States as a whole. It is decidedly encouraging, and is borne out by similar figures in other women's colleges. It shows that among a group of women where the emphasis is so strongly intellectual as at Bryn Mawr, and among a group who are popularly supposed to tend toward sterility because of their intellectuality, the percentage of childlessness is probably no greater than among the rest of the population. Another encouraging feature is that this later Bryn Mawr generation has larger families than its predecessors, or than the women of most of the other prominent women's colleges in the United States. In 1924 the average number of children per graduate amounted to 1.34 among the contemporaries of those who had been married from 13 to 23 years, and may rise to 1.5 when the record is complete. A little allowance must be made for the fact that a few more children will be born to some of the women here considered, although the number must be very small since the average college woman, to judge by Wellesley, does not marry till she has been out of college 5.7 years. Some allowance must also be made for graduates whose records are incomplete, and who are therefore counted as childless, although actually having children. When these allowances are made Bryn Mawr's score in its best period probably stands at about 1.5 or 1.6 children per graduate, or essentially the same as that of Harvard.

Only a little comment is needed in regard to other women's colleges. Tables 2 to 4 in the Appendix tell the story. At Vassar one significant fact is the high per cent of childless marriages—from 20 to 28. The average, 23, is the same as among Harvard graduates, but fortunately among Vassar graduates this is declining while at Harvard it is increasing. Another significant and less encouraging fact is that the number of children per mother has declined from 3.1 to 2.3. The corresponding figures for Harvard, 3.6 and 2.6, are larger, but show an even more rapid decline. These figures and oth-

ers suggest that in this whole matter of marriage and children, all college graduates, whether men or women, are tending toward an approximately uniform condition.

For Smith College (Table 3) the figures are so much like those of Vassar that comment is scarcely necessary. One of the few encouraging features is that the percentage of marriages has increased and has thereby raised the number of children per graduate. To-day the percentage of marriages stands close to 60 as at most of the women's colleges. But gloomy Cassandra, who ever prophesies ill, hints that this may merely be because the type of girl who goes to Smith is less intellectual and strong-minded on an average in these later years than was the case when it was not so easy to go to college.

Mount Holyoke, with its insistence on high religious and moral ideals, falls lower than Bryn Mawr with its intellectual ideals, but is practically on a par with Vassar and Smith with their social ideals.

It seems queer that the percentage of childless marriages, 24 to 40, should be so persistently high among graduates of a college where the religious emphasis is so strong. These childless married people, together with the great number of unmarried, are mainly responsible for the decline in the college type. Those who have children still have enough to replace themselves. Among Mount Holyoke graduates the high percentage of childless marriages is probably due largely to the great number of late marriages. That this is the case is suggested by the fact that among the Mount Holyoke graduates from 1904-1913, only 15 per cent of the marriages were childless. At Bryn Mawr, the figure is practically the same, while at Wellesley, among graduates who are married within five years of leaving college, only 13 per cent are childless.

These figures show not only that college women want children, even though they have not yet learned to have families large enough to maintain their type, but that they are no more

likely to be sterile than are women of other classes of society who are married at the same age. In fact, if college women were married at the age of 18 to 22, instead of at various ages from 22 to 50, their percentage of sterility would probably be lower than that of the population as a whole. All things considered, the records here discussed seem to indicate that college girls are physically at least as sound as the girls who do not go to college, and are equally able to bear children. We shall see later that at least one great group of them actually has more children than does the corresponding group of women who do not go to college. Moreover, we see no evidence that the intellectual women who do not marry, or who marry late, are of a disgenic type, the kind who would not make good mothers, as some would have us believe. On the contrary, common observation seems to show that women who combine intellect with an equable temperament make the very best of mothers. The graduates of women's colleges all seem to have low birth rates, no matter whether the emphasis is placed upon intellectual pursuits, upon religion, or upon general social culture. This is one of many reasons for thinking that intellectuality is not in itself responsible for the low birth rate among college women.

As we go on with our list of women's colleges, the prospects for the future of America grow darker and darker. Our college girls are unquestionably among the finest types in the country—just the sort who ought to be mothers. Yet among about 450 graduates of Goucher College from 1892 to 1903, only 60 per cent were married. Up to 1924 they reported only 1.7 children per married graduate, or 1.0 per graduate including married and unmarried. At Radcliffe the figures are similar. Unless the Wellesley records are greatly deficient, that college stands close to the bottom as a source of future Builders. According to the executive secretary of the Wellesley College Alumnæ Association, among over 4,000 graduates from 1896 to 1913 only 57 per cent had been married up to

1925. The number of children was only about 3,000, or 1.3 per married graduate, and 0.75 per graduate. Even if the fullest allowance is made for deficient records and for children born to these classes after 1925, the number of children will scarcely rise much above one per graduate.

The gloom occasioned by such figures is relieved by a few spots of light. One such spot is the very low percentage of divorce among college women. The Wellesley College Alumnæ Association stresses this. A search among the names of over 200 married graduates and non-graduates of Goucher College from 1900 to 1903 discloses only one who was married twice, and there is no reason to think that she was divorced. Among 100 married graduates of Barnard in the classes of 1900 to 1903, only two are recorded as having children by more than one marriage. Plenty of other facts indicate that among college women, successful and enduring marriages are the general rule.

Another favorable feature is the low death rate among the children of college women. For example, over 2,000 children of Mount Holyoke graduates for whom data are available show a death rate of only 39 per 1,000 during the first year of life. This is very low in comparison with 162 for the original birth registration area of the United States in 1900 and 106 in 1920. It is still lower when account is taken of the fact that many of the Mount Holyoke children were born before the infant death rate had begun its recent rapid decline. If children of all ages are included, the record is equally good. Thus among about 800 children of Barnard graduates of the classes from 1893 to 1910, and among an equal number of Goucher graduates of the same period, only about eight per cent had died up to 1925. Of course, many of these children were still young in 1925, but it seems probable that even by the time they reach the age of 21, the death rate among the children of college women is not over 12 per cent. The corresponding figure among miners, farmers, laborers, and the

like appears to be more than twice as great. But the low death rate among the college group by no means compensates for the extremely low birth rate. People like miners, whose families average five or six children, can lose a third of their children and still increase rapidly. The college group declines, no matter how low its death rate.

The whole thing may be summed up by answering this question: If present tendencies continue for a hundred years, how many descendants will there be of a thousand college graduates and a thousand miners?

Let us say that among the college people, including both men and women, there is an average of 1.4 children per graduate, the number being 1.5 or 1.6 for men as represented by Harvard, Yale, and West Point, and 1.2, or 1.3 for women. Deaths before the age of marriage will reduce this average to 1.2. Among the miners, when allowance is made for 10 per cent who do not marry and another 10 per cent who are childless, the number of children per miner may be put at 4.3. Death before the age of marriage probably reduces this to 3.2. On this basis 1,000 college graduates would have scarcely 200 great-grandsons who grow to maturity, while 1,000 miners would have about 3,700 great-grandsons. More than 18 of the miner type for one of the college type! The miner type may be highly valuable, but is it safe to let the other type die out?

The most discouraging feature of the whole situation so far as colleges are concerned is the fact that the finest people, especially the finest women, have so little appreciation of what it all means. For example, the Bryn Mawr Alumnæ Bulletin for January, 1927, contains an admirable report of 36 pages on the Graduate School. The subjects that are fully discussed include the history and functions of the School, the kind and number of the women who belong to it, their occupations and salaries, the Doctors of Philosophy and their success in life, the professional careers of the students who have married, the

foreigners who have attended the school, and the foreign schools to which the Bryn Mawr women have gone. But strangely enough, only two-thirds of one per cent of the whole article is devoted to children. The one table which fills most of that small space presents a strong contrast to all the other tables. It is practically worthless because it gives no indication as to the ages of the women whose children are reported or as to how long they have been married. Of course the committee which prepared this report was under no obligation to discuss children, but if the true significance of an institution like the Graduate School of Bryn Mawr College is to be understood, the children of the graduates are assuredly quite as important as the salaries, or as the percentages who study abroad and in other colleges. We are confident that in a few years so intelligent a group of women as those in the graduate schools of our colleges and universities will realize that nothing is more important to posterity, and even to the present generation, than the number of their children. The high average quality of their children is already insured. But while the college women are making up their minds that such children are worth more than college degrees and careers, can any one calculate the damage that will be done?

CHAPTER VI

THE SOURCE OF THE BUILDERS' ABILITY

THE conditions described in the last few chapters are obviously dangerous. It can scarcely be safe to have large families among the least competent people and small families among the most competent. Few people doubt that it would be highly desirable if we could reverse the birth rate so that the incompetent would have small families or no children at all, while the competent had large families. That would insure to each successive generation an increasing proportion of persons blessed with both a good inheritance and good training.

In spite of this general agreement some people doubt whether anything can be done about it, while others urge immediate action. The doubters generally lay chief stress upon environment and training. The right kind of training, so they say, will show that bright, competent, and high-minded children are abundant, even in families where stupidity, incompetence, and moral weakness are dominant. In fact, the potential supply of such children is so great that the world's chief effort should continue to be placed upon education, religion, and other types of training. A change in the relative birth rates of different classes of society would, indeed, be highly desirable, but the accomplishment of any such change is so extremely difficult and dangerous that we had better not attempt it on any large scale.

There is much to be said for this view. No thoughtful person can fail to be impressed by the almost miraculous transformation wrought by education, and by the extraordinary difficulty of knowing how to alter the birth rate without doing

more harm than good. Nevertheless, the modern discoveries
of biology seem to compel us to face the question, not only
of what the present differential birth rate is doing to society,
but of how it can be altered. It seems to be proved beyond
question that *on an average* the children born to competent
parents tend to be relatively competent regardless of the en-
vironment; those born to brilliant parents tend to be brilliant;
those to stupid parents stupid, and so on. All men are created
unequal. We receive our inequalities from the germ cells of
our ancestors. Those cells are our beginning and our crea-
tors. The greatest responsibility of every true Builder is the
sacred trust of handing forward to posterity the heritage which
has been placed in his care. That heritage is partly social,
but its most precious portion is biological. If the social
heritage were shattered, it could be built up anew in a few
generations. The biological heritage, when once lost, is as hard
to replace as the pansies in the Queen's garden.

The authors of this book share this latter view. They be-
lieve that mental traits are inherited. If that is true, it is es-
sential that the world contain the largest possible percentage
of people who bear the biological inheritance of the true
Builder, and not of the Destroyer. The only way to accom-
plish this is to alter the birth rate. One of the authors is pri-
marily a student of environment. He believes, for example,
that the distribution of civilization over the earth's surface,
both now and in the past, depends upon climate and other
geographic conditions even more than upon race or any other
factor. Nevertheless, the work of biologists during the last
quarter of a century has convinced him of the supreme impor-
tance of heredity in producing mental diversity, not only
among individuals, but among different groups of people who
may or may not be diverse in race. Such differences, it ap-
pears, may for a time completely obscure the differences aris-
ing from purely environmental causes.

If this belief is well founded, as it seems to be, it is bound

to have a profound influence upon our decision as to what ought to be done about the whole problem of marriage, children, birth control, divorce, and the many other questions that center around sex, family, and home. If we accept the old view that training is far more important than inheritance, we may still feel keenly alive to the importance of altering the birth rate so that many children will be born where they will be well trained, and few where they will be poorly trained. If we believe that biological inheritance is as fundamental as education, we can scarcely escape a still keener feeling as to the indispensable necessity of promptly and wisely altering the birth rate. Since we entertain this latter view, it seems advisable to point out the reasons.

The first reason for believing in the inheritance of mental traits is general probability. No one who has made even a superficial study of heredity denies that physical traits are inherited. Aside from mutations, which appear to be rare phenomena whereby the results of the ordinary laws of inheritance are overshadowed by those of some higher law, like produces like. A negro father and mother, for example, provided they are pure bred, never produce anything except negro offspring. There is not one chance in millions that blue-eyed, fair-haired parents whose ancestors have been blue-eyed and fair-haired for generations, will produce children whose eyes are of any color except blue, or whose hair is anything except fair. It has been demonstrated again and again that the children of tall parents tend to be tall, of stout parents stout, of coarse-featured parents, coarse-featured. Not all are so as a rule, for human strains are generally far from pure, but we are speaking of the majority. If the grandparents are also tall, stout, or coarse-featured, the chances of great height, large girth, and coarse features in the children are still greater. If the great-grandparents all possessed these respective qualities, the chances rise even higher. In other words, the more nearly any line of inheritance becomes "pure" in respect to

any physical characteristic, the more probable it is that all the children born in that line will inherit that characteristic.

The universality with which observant people recognize family resemblances is eloquent witness to the fact that all sorts of little physical traits are inherited. At the moment when you are perusing these words, the chances are that some one, somewhere, is addressing one of a pair of brothers or sisters under the mistaken impression that he is addressing the other. Or perhaps he is saying, "Oh, yes, I see the difference now, but you and your sister certainly do look alike."

But what is the use of carrying this argument farther? Does any reasonable person doubt the inheritance of physical characteristics? Of course the same parents have children of extremely diverse types. But that is merely because each of us is sprung from a million or more highly diverse ancestors. In view of the possible combinations of characteristics derived from so many ancestors, the marvel is not that brothers and sisters differ from one another and from their parents in many obvious ways, but that the resemblances are so strong and persistent. Read almost any of the standard books on the subject, such as those listed in the Appendix to this book, and you will see how it is.

But why are we spending time on what seems so obvious? Simply because the brain is a physical organ. Modern physiology has shown that human character depends very closely upon the perfection of different parts of the brain, upon the degree of corrugation, and upon the thickness of the various cortical layers. If the shape of a person's mouth, the slant of his eyes, the curve of his shin-bones, or the length of his fingers are inherited, is it reasonable to deny that the corresponding physical aspects of his brain are inherited? And if that is the case, does it not stand to reason that the mental characteristics which are regularly associated with the good or poor quality of certain parts of the brain should also be inherited? It seems to us that such a belief is inevitable. This

constitutes the argument from probability, but probability is not proof.

What then is the proof? It is found in detail in the books listed in the Appendix. Here we shall merely suggest its nature, beginning with an unusually clear case among animals. Some dogs, such as hounds, possess a mental constitution which makes them "open trailers" or "trail barkers"; that is, when they find the scent of game, they immediately "give tongue" and continue to do so all the time they are pursuing. Others, such as bird dogs, pursue the game without any barking whatsoever. A totally different habit is found in pointers which stand still and look toward the game as soon as it is detected. Shepherd dogs possess the still more remarkable trait of herding sheep into a bunch. Here we have four distinct mental habits which are passed on from generation to generation and which crop out in the young even though they are separated from their parents at birth. This happens in spite of the fact that at least two of the traits, barking and pointing, actually diminish a dog's chance of getting food unless he is helped by man. Environment has nothing to do with all this. It is purely a matter of the inheritance of a mental trait.

Another interesting example of an inherited mental trait is found in foxes. The brain of the wild fox possesses some unknown quality which makes the animal strictly monogamous. When the animals are old enough to produce offspring, a male and a female pair off and live together. Neither will have sexual relations with any other fox unless its mate dies or is taken away. This fact has had much to do with the price of fox fur, for it compels the fox raisers to support a male for every female, instead of killing all but the finest males as soon as they have made their growth, as would be possible if the animal were polygamous. Naturally, then, the fox breeders were delighted when one of them detected a mutant variety which was polygamous. They were still more delighted when

Dogs differ unmistakably in their inherited natural aptitudes and mental traits. The Collie is a natural herder; the Scotch Terrier is ratless; the Pointer is a natural bird hunter and pauses before he attacks; the English Bulldog hangs on like grim death; the Bloodhound (blooded hound) is an open trailer and possesses the maximum degree of persistency, determination, and affability.

by inbreeding they succeeded in producing a type which regularly inherits the polygamous tendency. It appears to be only a matter of time before fox farms will be able to kill most of the males and sell their skins as soon as the animals are well grown. Possibly the change from the monogamous to the polygamous type is due to an alteration of the glands of internal secretion and possibly to an alteration in the brain. In either case the result is that the brain acts differently, for animals whose predecessors would pay no attention to any but the female of their choice are now attracted by all females. A corresponding change in man, or its reverse, would be regarded by almost every one as an inherited mental change leading to sociological consequences of almost incalculable importance.

The first great argument which established a widespread belief in the inheritance of mental traits in man was Galton's famous work on hereditary genius. He showed that greatness runs in families. Taking a group of British celebrities, he found that there is one chance in four that a kinsman of the first degree, that is, father, uncle, brother, or son of the great man, will also be eminent; one chance in 16 that a relative of the second degree, grandfather, cousin or grandson will be eminent, and one in 64 that a relative of the third degree, great-grandfather, second cousin, or great-grandson, will be eminent. Environment undoubtedly helps in producing eminence, but in these cases, search as one will, it seems impossible to find any environmental difference corresponding to the differences in the degree of eminence attained in different families.

The Darwins are famous as an example of this. Erasmus Darwin, the grandfather of Charles Darwin, was a scientist and poet; Francis Galton was Charles Darwin's cousin; Josiah Wedgwood was his maternal grandfather; and the famous evolutionist himself had a remarkable family of five sons, one of whom died young while the other four all rose to positions

of eminence such as can be held only by men of unusual talent. The Adams family of Massachusetts is another example: John Adams, president of the United States; John Quincy Adams, president of the United States; Charles Francis Adams, ambassador to Great Britain during the Civil War; Henry Adams, author of books that analyze himself unmercifully and that have set thousands of thoughtful souls to wondering why they are here and what they are worth. Could environment alone produce such a series of able men? Could proper training cause ordinary mortals to achieve what these men achieved?

No single set of facts offers a conclusive answer to such questions. The only road to certainty is through a great accumulation of evidence. Here is a bit of evidence which is unusually strong because the element of training is almost eliminated. Musical ability is one of the talents which is hardest to repress if present, and hardest to cultivate if absent. The genuinely musical person can scarcely help singing, whistling or playing melodiously, even in a highly repressive environment. The person who is distinctly unmusical never learns to sing or play with any distinction no matter how assiduously he is trained. Many people can scarcely carry a tune, let alone keep the pitch. In the *Eugenics Review* for January, 1926, Dr. Jon A. Mjöen tells of a highly musical Norwegian named Cleve who married twice. The first wife was unmusical and came from a family of the same kind. All five of her children were below the average musically. The second wife was musical and came from a highly musical family. All of her five children were above the average in musical ability, and one was the composer, Halfdan Cleve. He married a well-known pianist and had four children, all of whom were exceptionally musical.

In another case Doctor Mjöen found a family of seven musical brothers and sisters, all extraordinarily talented. The father and his family were more or less musical though not much

above the average. The mother was a well-known European concert player. Hence, if musical talent is inherited, it seemed natural enough that all seven of the children should display unusual ability. But one feature of the case seemed to show that here at least we have an instance where the highest type of musical ability springs from an absolutely unmusical stock, for all the members of the mother's family were much below the average in musical ability. "According to our experience," says Mjöen, "this is an impossibility. For a long time this extraordinary case was a mysterious problem, until one day the enigmatic veil was lifted by a member of the family with the words: 'I do not see why you should not know what so many relatives and friends are acquainted with. She (the musical mother) was an illegitimate child. Her real father was a great musician belonging to a family of artists.'" In other words, although the mother's environment was distinctly unmusical, her inherited musical genius made her a great player in spite of the environment. It also joined with the musical tendencies of her husband and his family in causing her children to display an extraordinarily uniform and high degree of musical ability.

Similar cases could be multiplied by the score. It seems to be proved beyond question that feeble-mindedness, a tendency to epilepsy, nervous instability, and other mental weaknesses are inherited just as are musical ability and the kind of mental power which led the Adams and Darwin families to greatness.

The study of twins is one of the strongest reasons for such belief. Twins are of two kinds, those derived from the fertilization of two of the mother's germ cells by two sperm cells from the father, and those arising from the splitting of a single germ cell fertilized by a single sperm. In the first case the twins resemble one another no more and no less than do other brothers or sisters. One twin may inherit a quality from the father, and the other the corresponding quality from

the mother. Since thousands of qualities are inherited, and since the father and mother may differ in a great many traits, there is a chance for an enormous number of combinations, any one of which may fall to the lot of one twin or the other.

In the second case, where so-called *identical* twins spring from the fission of a single impregnated germ cell, the combination of traits derived from the two parents must be identical in both twins. Both must be of the same sex; they must be alike in complexion; they must have similar features; they must be of about the same size; and must be physically alike in other respects except as they suffer alterations by reason of differences in environment. Such environmental differences do indeed occur, but generally they produce so little effect that identical twins continue to be like the famous pair of boys whose own parents could not tell them apart. In infancy the parents dressed them differently; in childhood they tried to make them play with different kinds of toys; in youth they sent them to different schools. Finally they sent one to Harvard and one to Yale, sure that the aristocratic traditions of Harvard and the democratic traditions of Yale would somehow make them different. When they graduated, one had become a Harvard "gentleman" and the other a Yale "mucker," but still no one could tell them apart.

This yarn goes ahead of our argument, but it expresses the sum and substance of the whole thing. The mental characteristics of identical twins have been closely studied. If mentality is not inherited, the mental characteristics of such twins ought to be no more alike than are those of ordinary brothers and sisters. As a matter of fact they are far more alike. Their tastes, their progress in school, their choice of associates, their way of thinking, talking, and acting show much more resemblance than do those of ordinary brothers and sisters, or even of the other kind of twins. Of course twins are usually brought up under the same environment and in the same way, but this is scarcely more true of identical twins

than of other pairs who are of the same sex. Yet the identical twins persist in being more alike than the others.

Even in the rare cases where identical twins are separated in early infancy and brought up under diverse conditions, they seem to preserve a much stronger similarity than would ordinary brothers and sisters—a condition which appears to indicate that they are born alike in mind as well as body. Nevertheless, the environment does seem to produce differences of temperament. To take a recent example, in the *Journal of Heredity* for December, 1925, Professor H. J. Muller, of the University of Texas, describes identical twins, young women, who were separated when two weeks old. They did not see one another till they were eighteen years old, and have lived apart nine-tenths of the time since then.

One of the most significant facts about these twins is that in spite of great differences in training, their scores in ordinary intelligence tests are practically identical. On the other hand, in tests which are supposed to measure volitional traits, effort, emotional trends, and social attitudes, the two sisters are as different as ordinary persons who are wholly unrelated. Their environments have evidently had a far-reaching effect. Nevertheless, as Professor Muller points out, "there are really many other mental characteristics in which the twins would agree closely could we but find appropriate means of measuring them. Both seem possessed of similar energy and even tension in their daily activity, with a tendency to 'overdo' to the point of breaking down; both have similar alertness and interest in the practical problems about them, but not in remote or more purely intellectual abstractions and puzzles; both are personally very agreeable, as indicated by popularity; both displayed similar attitudes throughout in taking tests, even to such details as lack of squeamishness in blackening the fingers for fingerprints and in being pricked for the blood test—but turning away before the needle struck. The tastes of both in books and in people appear very similar.—

Both twins read voraciously when children and have always been intellectually active."

Of course this is only a single case, but it confirms a multitude of other evidence. The gist of the whole matter lies in the contrast between identical and non-identical twins. Every pair of identical twins, because they have precisely the same arrangement of chromosomes in their germ plasm, show extraordinary resemblances even though raised in highly diverse environments. Non-identical twins, having indeed the same parents, but also having a different arrangement of their chromosomes and thus a different inheritance, often differ very widely even though brought up together in the same environment.

For reasons like this, in spite of the fact that one of the present authors is prone to stress the effect of environment, we conclude that inheritance plays the dominant rôle not only in determining people's physical characteristics, but in endowing them with their fundamental intellectual and emotional tendencies. The environment may alter the physique somewhat through disease, nutrition, bad air and the like; it may retard or accelerate the growth of the purely intellectual qualities; and it apparently has power to modify people's emotional reactions. To put the matter concretely, there is not the slightest evidence that environment or training can cause an innately stupid person to become a great mathematician. On the other hand, environmental condition such as physical pain, malnutrition, damp steady heat or a nagging husband, will ultimately spoil the disposition of almost any one, but the speed with which they do so varies enormously according to the innate qualities of the individual.

The chief objection to this view of the inheritance of mental characteristics arises from persons who cite cases like that of Lincoln. Was not Lincoln one of the world's greatest men? But did he not come from a poor ancestry? These questions have been answered again and again. Lincoln was certainly

one of the most marvelous men who ever lived: his parents obviously made no great mark in the world. But that does not make him an exception to the laws of heredity. In the first place there is always the possibility of mutations. The working of the ordinary laws of inheritance may at any time be obscured by the operation of some higher law. Such mutants have frequently been observed among plants and animals. Lincoln may have been a human mutant.

It is not necessary, however, to look upon Lincoln as a mutant. According to the Mendelian laws the genes or carriers of human inheritance are extremely numerous and varied. A quality like genius depends upon the more or less accidental combination of the genes of the father and the mother in such a way that a peculiarly well balanced condition occurs. The inheritance of every living person, at least in the countries where migration has long been active, appears to be so complex that almost any pair of parents may produce a genius, provided they are free from really harmful combinations of genes, such as those which appear to lead to feeble-mindedness and similar afflictions. The main difference between one set of people and another in this respect appears to be that the chances of the production of a genius are only one in many million among people whose general inheritance is of low grade, while they are one in a thousand, a hundred, or even a score among families like the Darwins. Lincoln may have been the one among millions.

Even this assumption is not necessary. We have no assurance that Lincoln came from poor stock. On his father's side he was descended from the Lincoln family of New England, which produced many able people who were local leaders of high standing. On his competent mother's side we are not so sure of his ancestry. In fact several books have been written to prove or disprove that his mother was an illegitimate child whose father may have possessed more than ordinary ability. One of the commonest biological phenomena is that

certain qualities appear in one generation, are recessive or concealed during the next, although actually existing in the germ plasm, and reappear in the third. Lincoln's father may have been intelligent although lacking in emotional control so that he failed to stick to his work. In Lincoln himself the intellectual ability of both his father and mother may have entered into an unusually fine combination, while his father's instability of temperament may have been recessive or dormant so that it did not appear. Thus even though his father was not highly competent, Lincoln may have had a good ancestry. In view of all the possibilities, such cases ought never to be used in arguments as to the value of inheritance. They can be adduced with equal force to support either side, but in neither case do they have much value because of the scantiness of our knowledge.

Much of the opposition to the idea of the inheritance of mental qualities is based on preconceived ideas. People cannot see the truth because their field of vision is limited. Naturally the socialists, and all who incline in their direction, flock to the standards of those who proclaim the insignificance of inherited mental differences. It would seriously curtail the hopes of the Bolsheviks, for example, to admit mental inheritance. Their schools are avowedly run on the basis of treating all children alike, instead of providing different conditions for the bright pupils and the dull. To admit that the majority of manual workers are such because they are incapable of filling positions that demand superior intelligence would be Bolshevistic suicide. As Benito Mussolini well puts it: "Russia, as an experiment in communism, is interesting. Everybody now admits—and even the Bolshevik chiefs agree in admitting—that the communist experiment has failed. That is because communism, because of its equalizing tendencies, is contrary to life and to the teaching of history. There is the further fact of Nature—she is profoundly opposed to equal-

ity and she may be said to exist upon the basis of the inequalities she established.''

Another group, including some social workers, is "loathe to admit" that there is little hope of making the children with whom they work much better than their parents. Such workers, who are often among the most conscientious and self-sacrificing, cannot seem to understand that a belief in mental inheritance is a help, not a hindrance, to their work. Yet even the social workers are beginning to see the light. One who is quite well known made a frank confession to one of the authors: "I know that the world is a lot worse because of my social work. Without the assistance of eugenics, social work is a hopeless and dangerous task. Even though it is supported largely by churches, it is contrary to Nature's plans. The best relief we could render to the victims of poor inheritance, and incidentally to America, would be sterilization without charge.''

By far the larger part of those who refuse to believe in mental inheritance are people who have never given the matter much serious thought. But why is it reasonable to agree with the chemist as to the atomic structure of gasoline, and not agree with the biologist as to the inheritance of dementia præcox? Or why agree with the biologist when he tells us that the color of the eyes is inherited according to certain well-defined laws, called Mendelian, and not agree with him when he says that feeble-minded parents, who are themselves the progeny of feeble-minded parents, have never been known to produce a normal child? The rare instances when this seems to be the case are almost undoubtedly due to illegitimacy.

Consider boys in any room in a public school, beginning at six years of age. Are not some already hopelessly dull and others as sharp as needles? How many will be together when they reach the eighth grade? How many will graduate from the High School the same year, or in any year? How many will be able to pass the college entrance examinations, and how many will go through college? With exactly the same

school training some will drop out, while others are promoted all along the line. But home training is what counts, says the objector, and those boys come from all sorts of homes. Very well, go to an orphanage, take only the children who were brought there in early infancy before they had a chance to be influenced by training. You will find the same sort of differences, although they will not be so great because the brighter children—those born of better parents—rarely find their way to orphanages, or if they get there they are soon adopted by foster parents because they are more attractive than the others.

Eugenists do not deny the effects of environment. In fact the more reasonable of them believe that *after a human being is once launched in the world,* and even while he is still in his mother's womb, environment is every whit as important as inheritance. A man may be made or marred by being brought up in a home of love, purity, work, and high ideals, or in a dwelling place where vice and cruelty prevail. Heredity deals the cards, as some one has well said, and environment plays the hand. Nevertheless, it seems highly probable that the higher the type of mind, the less it is bound by environment. The imbecile and idiot are completely dominated by their environment; morons are bound to a large extent; the average person is able to resist environment in many respects; and the Builder is freest of all. That is why he is a Builder. Because he can overcome environment, either social or physical, he is able to do some new thing that really advances civilization. But no amount of environment can make a walnut out of a pignut, a genius out of a moron. You cannot get blood out of turnips.

Here then are the basic conclusions on which to found our conduct in respect to the intricate problems of birth control, marriage, children, divorce, the home, the family, and the relation of the sexes. Training and environment are of vital importance, but they do not begin to act until a person's funda-

mental traits of intellect and temperament are already established. The evidence outlined above is merely a small sample of what might be presented. In the course of generations the process of natural selection, which is constantly at work, may sort out one kind of people for one environment and another for another. Both physical and social environment may lead to drastic selection. Thus in due time the type of inheritance may, and we believe does, correspond closely with the environment, but the fundamental physical and mental traits with which each person is endowed seem to be the immediate result of inheritance. During each person's life, environment and training undoubtedly cause one part of the original endowment to develop rapidly and another slowly or perhaps not at all. This is especially true of temperamental traits. *But with the possible exception of mutations, the environment never creates new traits either physical, intellectual, or temperamental. It merely emphasizes some and represses others. Heredity supplies the original material upon which environment works. Thus heredity is the primary basis of human character; environment and training are the developers or repressors of traits already existing.*

CHAPTER VII

TARES IN THE WHEAT

THUS far we have been dealing mainly with people who possess more than the average ability and value—the Builders, the choicest flowers in the garden. But it is almost equally important to consider the weeds which crowd out these choice varieties. Jesus set forth the whole situation in a nutshell.

"A man sowed good seed in his field; but while men slept his enemy came and sowed tares among the wheat, and went his way. But when the blade was sprung up, and brought forth fruit, then appeared the tares also. So the servants of the householder came and said unto him, Sir, didst not thou sow good seed in thy field? from whence then hath it tares? He said unto them, An enemy hath done this. The servants said unto him, Wilt thou then that we go and gather them up? But he said unto them, Nay, lest, while ye gather up the tares, ye root up also the wheat with them. Let both grow together until the harvest; and in the time of harvest I will say to the reapers, Gather ye together first the tares and bind them in bundles to burn them; but gather the wheat into my barn."

A man sowed good seed in his field. If we go back far enough we find a spark of life which evolved slowly through the long ages into the complicated biological product, man. We find that through millenniums of mutation, migration, and natural selection, diverse races evolved, adapted to different environments. At length a part of a migrant race settled in England. Some of us like to think of this as the greatest of races. Perhaps it is the greatest for that type of environment, but were England a tropical jungle, the modern type of Eng-

lishman might be a human weed—a being out of place—just
as the African is out of place in climates that are cold.

The English are a race which thinks, as well as acts. The
mandates of the Stuarts seemed ridiculous to many of the best
thinkers. They became intolerable to some. Those people
wished to worship God without the superficial non-essentials
with which religion was becoming handicapped. They wanted
to worship the kind of God that they saw between the lines of
the Bible. They needed no high "authority" to interpret the
Book. In fact, their own leaders, as well as many of the
rank and file, were mentally superior to most of those who
were officially charged with interpreting the Bible. They
wanted what seemed to them, and what was for that time, a
sensible religion based on intelligent thought. Unwilling longer
to endure the old régime in England, these protesters finally
went to Holland. There, after several years, they chartered
a little shell of a boat, which they named the *Mayflower*, and
set sail. Courage! How many of us would dare spend four
months on the rough Atlantic in that frail bark? How many
of us would dare face hunger, cold, hardship, and savages in
a wild and unknown land?

The first winter was terrible. Only the most courageous
and stalwart could live. Only those who were strongest in
body and soul did live in those first few years. Yet gradually
schools, churches, town halls, sprang up. More and more of
those brave, thoughtful, persistent men and women came until
New England represented one of the most highly selected
groups the earth has ever seen. More greatness came out of
that small population of eastern Massachusetts in a few gen-
erations at the close of the pioneering period than from al-
most any other equal number of people unless it be in Attica,
Judea, or perhaps in part of eastern England. Among the 65
persons whose names have been chosen to adorn the Hall of
Fame in New York University no less than 41 appear to be
derived from the old Puritan stock of New England. Al-

though that stock represents only a minor fraction of all the settlers who came to the United States in colonial time, it has furnished approximately 60 per cent of the persons whom an impartial vote of men of many kinds has chosen as the greatest and most valuable citizens of the region that is now the United States.

During the same general period when New England was being settled by the English Puritans, New York and Virginia were settled by the Dutch and English respectively, the Quakers came to Pennsylvania, and Huguenots and Cavaliers, as well as other elements, took possession of the states farther south. Although the selection elsewhere was not so rigid as in New England, it was drastic enough to produce communities of unusual force and vigor. Then came the days of the covered wagon, when men of these various stocks went westward. There Nature made still further selection, weeding out the weak and saving most of the strong. By the end of the eighteenth century a great race had made a good start toward spreading over the best part of America. Our constitution had been written, and our national character crystallized. But different chemicals form different kinds of crystals. The crystal alone is often enough to tell an expert from what chemical solution it must have crystallized. In the same way the institutions of a nation reflect the characteristics of its people.

Our forefathers founded a republic—the golden mean between autocracy and democracy. Our republic shows unbounded faith and genuine greatness. Our forefathers had lived together long enough to realize that they could trust their neighbors. They knew that some of their number possessed different sorts of knowledge and skill from those which they possessed. The percentage of genuine statesmen among them was unusually large. Although our forefathers may not have realized it, that was doubtless one reason why they elected a trusted man to office and felt that with the election went this implication: "You know more than we do. We trust you

to do what is right for our mutual interests. We believe that our country will be prosperous because a group of experts is at its head. We will abide by your decisions."

Such a government, based upon the mutual love, honor, confidence, and respect of one man for the other, could scarcely have been successful except in a nation of unusually high intelligence and strong moral character. Such being the case, it is not surprising that our forefathers wrote "the greatest instrument ever struck off by the pen of man."

"A man sowed good seed in his field, but while men slept—" Until the end of the nineteenth century little was actually known about heredity. The Greeks had proposed some remedies for defectiveness or degeneration based upon the knowledge that like produces like. One of their philosophers, two thousand years ago, spoke thus: "We seek for rams and asses of good stock, and believe that good progeny will come from that good stock. Yet a man does not fear to wed the daughter of an evil father, provided the father does but give her much wealth. Marvel not then that the breed of our race is tarnished." The Bible likewise contains some good hereditary warnings, although it also echoes some popular misbeliefs such as those concerning inheritance of acquired characteristics, and concerning birthmarks. The Talmud sums up the Jewish ideal of eugenics in rather strong language:

"Our rabbis taught: Let a man sell all he has and marry the daughter of a learned man. If he cannot find the daughter of a learned man, let him take the daughter of a great man of the time. If he cannot find the daughter of a great man of the time, let him marry the daughter of the head of a congregation. If he cannot find the daughter of the head of a congregation, let him marry the daughter of an almoner. . . . But let him not marry the daughter of the unlearned, for they are an abomination and their wives are vermin; and of their daughters it is said: Cursed is he that lieth with a beast." (Pesachim, fol. 49.)

After the middle of the nineteenth century Darwin and Galton made their astonishing discoveries as to evolution and heredity. At nearly the same time Mendel framed the great law of inheritance which remained unnoticed during his life and was forgotten for a time after his death. But most people, including the lawmakers, seemed to be sound asleep so far as the changing hereditary qualities of America were concerned. Many are still asleep.

"But while men slept his enemy came *and sowed tares among the wheat.*" At the close of the pioneering period it seems probable that the physical and intellectual averages in America were unusually high, and the national germ plasm remarkably good. There were almost no institutions for defectives, because that was the habit of the times, but probably there was little need for them. The privations and exposure of pioneer life presumably killed off most of those who were deficient in either mind or body. Moreover, pioneers are practically always an unusually vigorous, healthy set of people among whom few children are born defective. Here and there a "county farm" existed with a few old persons as inmates, but it is doubtful whether the level in such places was as low as in the corresponding places to-day. Defectives could not easily live in America at that time.

The period from 1880 to 1916 saw a tremendous surge to America, while we still slept. The newcomers were of all races; they included people from highly advanced nations and others from countries which had progressed scarcely at all. Some of the men and women who came were highly selected because of energy, ambition, or other good qualities. Some were peasants by genuine biological inheritance, and relatively unfit for life in cities. Some fitted easily and naturally into our institutions, our way of life and our climate, and made a worthy addition not only to the body politic, but to our germ-plasm. Others, in large number, were misfits. Some came from warm climates and had to adjust themselves to bitterly

cold winters; others came from places where the summers are always cool, but settled where great heat prevails for months. Mountaineers tried to live on moist plains, and plainsmen tried to live in the mountains. But most of all, the people from rural districts flocked into cities and worked in factories instead of on the farm. Weeds! Men out of place; Millions of them! Only through generations of selection can they become adjusted to their new environments.

These ill-adjusted immigrants were by no means the worst tares that were sown in our fields while we slept. That worst type consisted of genuine human weeds, whole shiploads of them, from almost every nation in Europe. The weeds had proved out of place in their own native environment. They were still worse in America. There are records which show that almost every European nation has at some time more or less consciously dumped inmates from jails and almshouses upon our shores. There are records of encouragement given to defectives to assist them to America. There are records within the past year of convicts who accepted America in lieu of jail sentences. It was a common practice for illegitimate children to go to America where their shame would no longer hinder them and they could start life anew.

Can we then wonder that what to our sleeping fathers was the "Melting pot" was to Europe a very convenient garbage pail, and in some cases, as in Italy's of late, a source of revenue as well?

But when the blade was sprung up then appeared the tares also. What are the real facts as to the hereditary composition of our Republic to-day? We do not mean what percentage are Anglo-Saxon, Irish, German, Italian, Russian, or Negro in origin. We mean what percentage are true Builders on the one hand, a question which we have already discussed, and what percentage are so deficient in intellect, temperament, or physique that they are Destroyers, a menace to all the rest of us? We shall not dwell on the oft-repeated statement that the

average intellectual ability of the people of the United States
is only about that of a reasonably bright child of thirteen and
a half years.   Although that statement is much disputed, it

THERE ARE TWO-THIRDS AS MANY MENTAL DEFECTIVES CON-
FINED IN INSTITUTIONS AS THERE ARE STUDENTS ENROLLED
IN REGULAR COLLEGE COURSES IN THE UNITED STATES.

contains plenty of food for thought.   It expresses the un-
doubted fact that our intellectual ability is low compared with
what it ought to be.   Instead of this let us turn to certain facts
which deal more directly with the Destroyers, and which show
how huge and menacing is the proportion of our people who
are defective in one way or another.

About 80,000 paupers are inmates of almshouses. In proportion to their respective numbers in the community as a whole the paupers are more numerous among the foreign-born than among the native-born. This is true at all ages and in practically all parts of the country.

The 350,000 mental defectives who are in public and private institutions during any one year are two-thirds as numerous as the 500,000 students enrolled in regular college courses.

According to Dr. H. M. Pollock, statistician of the New York State Department of Mental Hygiene, there are four cases of legal insanity for every 1,000 inhabitants of that state. He estimates that during the course of a generation, one person in every 25 becomes a resident of a state hospital for mental defectives, although many of course only stay a year or so; one family out of every seven is represented. In addition to these legally registered insane, Dr. C. Floyd Haviland, Director of the Manhattan State Hospital and formerly State Commissioner of Health, estimates that there are five or six times as many mentally diseased persons outside asylums as in them. If this estimate is correct, New York State ought to have asylums and psychopathic hospitals large enough to accommodate 20 out of every 1,000 people. That would make about 226,000 people in New York alone, and approximately 2,340,000 in the United States as a whole, if the same rate applies everywhere.

In proportion to their numbers our foreign-born population furnishes 175 persons in our institutions for defectives where the native-born of native parents furnish only 100. Even if the fullest allowance is made for the larger proportion of adults among foreign-born than among native-born, and also for the concentration of the foreign-born in the regions where hospitals for mental disease are most numerous, the foreign immigrants still show a worse record than does the native-born white population.

Look at the matter in still another way. Consider those

who are merely weak in intellect, even though they may be normal temperamentally and hence in no sense insane. The Army tests and other lines of evidence indicate that over 2,000,000 persons are so feeble-minded that they need some sort of institutional care. Similar evidence seems to indicate that about 5,000,000 are mentally unable to go through the lower grades of school. Over 25,000,000 appear to lack sufficient native intelligence to get into the high school, in spite of the best efforts of themselves, their friends, and the public.

In 1924 all the states together devoted about nine per cent of their total expenses to the care of mental defectives. Massachusetts devoted 17 per cent of her total to this purpose, New York 23 per cent, and so it goes. But all the states ought to have spent five or six times as much if the mentally defective were to be cared for in such a way as to eliminate the danger that hereditary mental defects would be transmitted to posterity.

When people behave normally and are able to cope with life as they find it, they do not come to the attention of the public as misfits. The householder does not look on them as weeds, but rather as plants derived from the seed which he sowed in the field. They may not all be the strong vigorous specimens that he desires, but nevertheless, they are not weeds. The weeds come to his attention in many ways, but most commonly they disclose their identity by acts which show that they are out of touch with those laws of conduct, written and unwritten, which mankind has for ages been developing for the general good. Through generations of selection the race has evolved until its normal members seem to possess a natural responsiveness to such influences. The great mental differences which distinguish man from the lower animals are first, his reasoning ability, and second, his inhibitions. The animal usually does what it wishes, without any thought of consequences. In most cases it does not possess social instincts in any broad way, and lives unto itself or its family.

In the normal human being the social instinct is highly developed, and among people of the highest grade the development seems to be highest of all. According to Karl Pearson, conscientiousness is the culminating criterion of mentality. Doubtless it is, but conscientiousness is only another name for an inborn desire to live with one's fellow-men efficiently. It is the quality which William Herbert Carruth describes when he tells of

> A picket frozen on duty,
>   A mother starved for her brood,
> Socrates drinking the hemlock,
>   And Jesus on the rood;
> And millions who, humble and nameless,
>   The straight, hard pathway plod,—
> Some call it Consecration,
>   And others call it God.

We all like conscientious people for neighbors, and we all know how scarce they actually are. The high-grade man, then, unlike the animal, feels that "because right is right, to do the right were wisdom in the scorn of consequence." But human weeds, persons who behave without consideration of the general weal, are reversions to a primitive type so far as conscience is concerned. Our civilization needs protection from such people. All civilizations have needed such protection. The protectors apprehend the persons who revert, and try by punishment to correct their faulty habits.

The obviously insane—those who shriek and tear their hair —and the obviously feeble-minded, are on the whole rather harmless weeds as compared with the more sinister persons who attract attention mainly when some crime proves their inability to live with their neighbors in an orderly manner. This sort of weed—the criminal class—constitutes so tremendous a problem that we shall consider it in the next chapter. Suffice it to mention it here as the principal evidence of the

weeds in the human garden. The enemy has indeed sown many tares.

We and our fathers have certainly slept soundly, for the tares have not only sprung up, but have produced a goodly crop. Can we gather them up without spoiling the wheat?

So the servants of the householder came and said unto him, Sir, didst not thou sow good seed in thy field, from whence then hath it tares? Science is fast learning the source of the bad seed and how to eliminate it. When Dr. Harry H. Laughlin, in his famous testimony before the Committee on Immigration and Naturalization of the House of Representatives, demonstrated that immigration should be regarded as a permanent investment in family stocks and not a short-time investment in productive labor, he did something which will mark a great milestone. Even yet only a few people realize the full significance of his testimony. It formed the basis of the Immigration Act of 1924. That act, to be sure, is far from perfect, but it is based on a *selective* principle—a principle which should have been adopted a century earlier. Equally few realize that in the Act of 1924, almost for the first time in history, a nation recognized the principle that good heredity is one of the main foundations of national greatness. Our descendants will recognize this principle, and will acknowledge their indebtedness to men like Doctor Laughlin. They will appreciate the fact that the tares in our human wheat field are the result of poor seed. No seed is absolutely pure; some, however, contains only a small percentage of weeds and some a large percentage. But the very best seed will be poor if the weeds are allowed to grow, and the seed of weeds and wheat is harvested together. That is our case to-day. We have slept, the poor seed has been sown, and we have carefully harvested the tares and the wheat together, saving the seed of each with equal care. No, not with equal care, for the poor seed has actually been saved more carefully than the good.

Meanwhile, as the servants look at the field with its poor crop, they are asking, "Who is responsible for so poor a field? From whence hath it tares?"

"An enemy hath done this!"   That is the answer of the householder.   But who?   Has the United States any such sinister enemy?   Is England, or Europe, or any other part of the world the enemy that has so injured the seed of America?   Not at all.   The enemy is the selfsame one who ruined the Queen's pansies.   The enemy is the householder.   You and I and all the people around us are our own worst enemies. No, that is not fair.   We, ourselves, are not the enemy.   Our ignorance is the enemy.   We develop what seem to us most admirable systems of religion, philanthropy, democracy, education, industry, business, and freedom for women.   Those systems are not only seemingly, but really, admirable—genuine steps in the course of human progress.   But while each and every one of them may be socially an advance upon the past, each carries with it certain disastrous biological results. They all, with differing degrees of intensity, tend to diminish the good seed and increase the poor.

Look, for example, at our industrial system.   The desire for gain, coupled with dense ignorance as to the effect of their conduct, led the people of America to demand the importation of cheap labor.   First came the blacks, who have increased from 300,000 slaves in the time of Benjamin Franklin to over 12,000,000 freemen to-day.   The army mental tests showed that 86 per cent of the Southern Negroes possess inferior intelligence.   Other evidence shows that almost the only Negroes who have accomplished much of importance have been partly white.   The blending of white and black has produced something more competent than the pure black, but less competent than the pure white.   It has often made a most dysgenic blend, creating a white man's ambition in a black man's lethargic body.   A certain group of scientists maintains that within a few hundred years there will be no more pure blacks in

America. If that were to happen, the mentality of the nation would be materially lowered by the admixture of the germ-plasm of the blacks with that of the whites. But it is doubtful whether such a complete mixture will ever occur. In many European and Asiatic lands diverse races have been living together for hundreds of years without coalescing. The South has drawn a sharp color line.

The Negroes are assuredly a great problem. They may prove to be either enemies or allies. From the whole United States it might be difficult to collect more than a few thousand pure African blacks who possess the intelligence to rank as Builders, but there are probably hundreds of thousands who possess temperamental qualities of cheerfulness, love of fun, musical ability, willingness to work and the like, which would be of inestimable value to the other Builders. Nevertheless, it seems quite certain that we should be better off without our Negroes and their problems. They and their slavery have been enemies to the children of the Builders.

The exploitation of cheap European labor, especially of the lowest types, which is likewise due largely to greed, has probably hurt the Builders even more than have the Negroes. Before the invention of labor-saving devices, such laborers were used almost like work-animals. With no thought for the future, the contractors brought them here and exploited them. The steamship lines also did their part in getting them here, thus reaping abundant profit. Now that they are here, these immigrants, especially those from eastern and southern Europe, are producing children whose average ability, according to the Army tests and many other lines of evidence, stands much below that of the older stocks. Tests of thousands of school children, such as those made by Dr. Nathaniel D. Mittron Hirsch, seem to show conclusively that in spite of almost unlimited opportunities for education, our Italian, Spanish, Greek, Russian, and other immigrants rarely rank high, although there are notable exceptions. Yet such people produce

more children per family than do those of almost any other group of our population. In New Haven, Connecticut, where about two-fifths of the women aged 25 to 44 years are foreign-born, fully two-thirds of the children born each year are of foreign or mixed parentage, and the Italians far outrank all others. But in intelligence our American Italians rank close to the bottom, not far from the Negroes, as appears from practically every careful series of mental tests. The selfishness of our own people—of the Builders themselves—is largely to blame that such stock is filling our cities.

Let us turn to modern philanthropy for another example of how the seed of tares is sown among the wheat. The social welfare work now carried on all over this broad land is one of the most marvelous developments of our age. Its breadth, scope, and wisdom, the devotion and earnestness of the workers, and the loyal support which it receives from practically all classes are a fine tribute to the innate soundness of a large part of our people. But with the good comes the bad. We need to disabuse our minds of the old idea of charity. The ideal charity is a charity to lessen charity. God's kindness, love and charity are of this nature. He eliminates weakness so that there will be only one sufferer. Consider Nature, and note the manner in which all forms of life are constantly held in adjustment to their environment. Half-witted animals do not live long. Albino birds and mammals perish almost as soon as they can fly or walk. The squirrel which lacks the instinct to store nuts for the winter soon dies. The raccoon which does not lay on sufficient fat in the fall does not live to transmit his ill-adapted heritage to a new generation.

Winter is a testing time for half-witted and emotionally defective human beings as well as for animals. That is one reason why the North maintains so large a number of great institutions for defectives. The hard winters would otherwise kill them, for they themselves make no provision against

cold and poverty. Thus they are protected, which is right and wise. But they are also unintentionally encouraged to multiply, and thus charity is converted into misery. In saving these people and allowing them to raise children our charity has been not merely tender-hearted, but weak-kneed and cruel. In this way and in others we have foisted upon our country millions of persons whose absence would make us far better off, and who themselves are miserable. Why have we not seen these facts and taken action? Ignorance is the answer. Because of such ignorance only twelve states have active sterilization laws. California sterilized over 5,000 persons up to 1927 and Kansas a considerable number, but the other states are far behind. Public opinion has not advanced sufficiently to be ready for so seemingly drastic a remedy. Only persons of clear vision can see how merciful the remedy really is. Our ignorance permits bad seed to be sown abundantly.

Not long ago a feeble-minded woman came back to present a Massachusetts institution with her eighth illegitimate child born within its walls. This woman was just beyond the range of the law. She could not care for herself, but the law-makers have not yet been induced to enact laws which segregate her and her kind for life, or else sterilize them and let them go free. Seven times she had been given her freedom unsterilized, and seven times had returned to present the institution and the taxpayers of Massachusetts with another child which at best will be either a moron or a carrier of the inheritance which produces morons.

A feeble-minded farmer in Connecticut admired the appearance of a low-grade moron in the local poor house. He married her. The superintendent was happy to have her off his hands. In seven years the pair came back and along with them were five feeble-minded children for the taxpayers to support.

In Chicago one of us saw a prostitute's baby, a few weeks old, badly afflicted with a loathsome venereal disease and also

with pneumonia. Social workers took the baby to a hospital to save its life. Was that course as merciful and charitable as it would have been for the law to direct that in such hopeless cases a little chloroform be held painlessly over the child's face? Thereby the poor, miserable, sickly little thing with its weak physical, moral and mental inheritance would have been saved from years of torture. Nature, in a less merciful way, was trying to accomplish just that, but man's ignorance intervened.

In Illinois, as in the other states, the most eminent psychiatrists cannot persuade the institutional authorities to detain dangerous criminals because the authorities are not sufficiently well informed to recognize serious hereditary defects. As soon as a criminal behaves well, he is liberated, with the result that he almost invariably continues his old depredations—murders, rapes, burglaries, larcenies, or the like. "He was a model prisoner!" exclaims the superintendent, when told of the new offense. "There is no law which would force me to detain him."

In Connecticut a pair of down-and-outers and two children were discovered living in such squalor that the kindly persons who ran across them were afraid to stay in the room with them for fear of contamination. The conscientious social workers rushed for aid. They brought cleaners and cloths. The room was scrubbed; a good supply of soap was left for the woman; while for the man a position was found that would keep the family alive with a little to spare. Clothes were provided and the family was left in a fairly respectable condition. Nobody bothered to estimate the mental capacities of the father and mother. On the next call of the social workers, two months later, the soap and scrubbing material were found practically untouched; the room was almost as filthy as at first; none of the four had changed his clothes; and the man had stayed on his job only four days. But the good people persisted. They were bound to clean up that family. They

did their work all over again. When next they came back everything was as bad as ever. So they called in more charity organizations. To make a long story short, they have been at it ever since—some seven years. They have not succeeded in making the man work, or the woman keep the place clean. But they have succeeded in raising nine of the finest specimens of imbeciles that have graced the "Nutmeg State" in many a day—the number was eight when we first wrote this, and may be ten or more when you read it. The father in this case sold the dead body of his first wife for twenty dollars to a medical school. When asked if this were true he said, "Yes, by golly, and I wish I could sell this wife for another twenty."

We have heard about the famous Jukes family until many of us are tired of it. We have been told how the state of New York has spent upwards of $2,000,000 on this one family. We hear that six hundred or more of the Jukes tribe were living in New York in 1915, but only three were in institutions. We are told that if the original Max and his wife, or his two sons and the five sisters with whom they consorted, had been sterilized, the cost would have been scarcely $250. If they had been segregated for life, the cost would scarcely have risen to $25,000, a pretty saving compared with $2,000,000; and the $2,000,000 does not include the value of the goods which the family stole, the loss inflicted by the family through murders and through the spread of disease, and the cost of the general trail of ruin which they left in their wake. Is the Jukes family unique? Not at all. There are probably many others of the same sort in the United States and in many other countries.

In Sweden a similar family has been studied in the same way. Its descent has been traced for five generations in some cases, and about 2,200 persons are known to have belonged to it. The bad trail started with an epileptic immigrant. It has been continued in an appalling series of epileptics, criminals, prostitutes, insane persons, and others who have be-

come public charges. In one way or another, Sweden has paid out 5,000,000 kroner on their behalf. One of the most extraordinary facts about this family is that the percentage who have been mentally deficient, or have displayed criminal tendencies, or have required institutional care has been almost exactly in accord with what would be expected on the basis of the Mendelian laws of inheritance. All over the world this same sort of thing is happening. In primitive and backward societies these human weeds are eliminated because life is too hard for them. Among us, our Christian kindness, our medical skill, and our feeling of social responsibility are still preserving the weeds and spreading their seed broadcast among the wheat because our ignorance is still appalling. Nature is sometimes cruel, but always kind. We try to be always kind, but much of our kindness is cruel.

CHAPTER VIII

THE TIDE OF CRIME

THE crimes of America are the most sinister evidence of the weeds in our garden. It is well to remember that there are "crimes and crimes." Almost the entire adult population of some states is criminal according to the technical use of the term. Does any one drive a thousand miles in an automobile without breaking the law? In Massachusetts all automobilists who buy gasoline on Sunday are technically criminals. But such crimes are not the sort to which we have reference. Murder, rape, arson, burglary, drunken driving, swindling, counterfeiting—crimes which may seriously harm society—these are the evidence of how our garden has become filled with weeds.

In order to discover the prevailing ideas as to the causes of crime, we have collected newspaper clippings for two years. According to these clippings, persons who are supposed to be authorities consider the following causes as basic.

I. CAUSES CONNECTED WITH THE HOME:
1. Youthful marriage
2. Large families
3. Extravagant wives
4. The Latchkey Age
5. Too much freedom
6. Too little freedom
7. Too much money
8. Too little money
9. Bad associations
10. Shortage of birch switches
11. Bad home influences
12. Envy of those better off
13. Careless parents

II. CAUSES CONNECTED WITH EDUCATION:
    1. Lack of religious education
    2. Moving pictures
    3. Dime novels

III. CAUSES CONNECTED WITH SELF-INDULGENCE:
    1. Liquor and narcotics
    2. Prohibition

IV. CAUSES CONNECTED WITH THE ADMINISTRATION OF JUSTICE:
    1. Ease with which firearms can be procured
    2. Scarcity of hangings
    3. Scarcity of cases where the law makes an example of criminals
    4. Liberal bail
    5. Pleasantness of prison life
    6. Coddling the criminal—Newspaper publicity, sentimental women, etc.
    7. Evil influences of reformatories

V. CAUSES COMMONLY ASCRIBED TO OUR SOCIAL SYSTEM:
    1. Slums
    2. Poverty
    3. Sentimentality
    4. Automobiles and consequent ease of escape after crime

VI. BIOLOGICAL CAUSES:
    1. Improper glandular adjustment
    2. Diseased brains
    3. Defective brains
    4. Bad heredity

This list reminds one of the causes assigned to cancer, which range all the way from canned tomatoes to an inherited predisposition toward the disease. Many other supposed causes of crime might be listed, but these are enough to show the extreme diversity of opinion. Doubtless all are closely connected with crime, but are more than one or two really *basic?*

Let us consider some of these alleged causes in detail.

Slums, for instance, are in one sense a real cause of crime, for slums are not merely places—they are places plus a certain kind of people. Jacob Riis is one of many who have valiantly tried to clean up the slums, but he accomplished only half the job—he cleaned up certain *places,* but the slummers moved on and made new slums somewhere else. We ought not to think of slums as belonging only to cities. Dr. Arthur H. Estabrook has shown that there are slums in the country as well as the city. His work seems to show conclusively that people are responsible for the conditions in the places where they live quite as much as the places are responsible for the type of people. Some, but not all, of the mountain whites of the South live in tumble-down shanties because they are natural-born slum-makers. Their enterprising relatives who moved to the larger villages or went "outside" a generation or two ago have homes in keeping with their initiative. Slums appear to exist mainly because people are somehow defective, and because the abler children who happen to be born in them generally leave the slums and the slummers behind.

Professor E. W. Burgess of the University of Chicago has very clearly shown the way in which the slums are part of a great selective process which divides people according to their ability and character. Chicago's downtown district is the criminal center. There 443 out of every 1000 boys take a first step in criminal careers through some form of juvenile delinquency. This area, according to Professor Burgess, "holds the most intense and concentrated form of the social problems of Chicago. It is an area in which flourishes all that is picturesque and arresting in the modern cities—immigrant colonies like the Ghetto, Greek Town, Little Sicily, Bohemia, as well as the cabarets, the spiritualistic halls and the Moody Bible Institute." Outside of this area, which Professor Burgess calls the zone of transition, and roughly concentric with it, comes the area of first immigrant settlements, then the

zone of second immigrant settlements, composed of working-men's houses; next a middle-class residential district; and finally, the higher-class residential homes. Home ownership shows a progressive increase from the inner zone to the outer. Juvenile delinquency does likewise, decreasing from the high figure of 443 per 1000 boys, already mentioned, to zero in the Oak Park district. The percentage of male population decreases from 85 in the slum center to 47 in the high-class residential zone.

"The skilled worker and his family," as Professor Burgess says, "depart from the slum area as it deteriorates and build up the zone of workingmen's homes, not too far away from the factories in which he works. The professional and clerical groups employed in the downtown offices live still farther out, while those who can afford it and who prize suburban life escape to the commuters' zone. Only in this zone of restricted neighborhood development does the American of our native traditions feel somewhat secure from the tide of immigrant invasion." Every city is naturally zoned in much this same way. People move from one zone to another very largely in accordance with their own personal character.

Returning to causes of crime, it seems to us that in practically every case the argument is much the same as in the case of slums. Do hangings prevent murders? Nobody knows. But if they do, it is quite certain that the men who are thereby saved from committing murder are the ones who are best able to control their passions, or to look ahead and reason out the consequences of their crime. Hangings by the thousand will have little or no effect on the man who kills in a sudden blaze of anger, or on the brutal bruiser who calmly kills because he wants something.

Reformatories, to take another example, undoubtedly make bad boys out of good boys who happen to be sent there by mistake. But boys with weak inhibitions, unduly strong passions, weak intellects, and other defects make reformatories neces-

sary in the first place. Reformatories ought not to be blamed for the crime in America. If there were nobody to be put there, they would not exist.

The shortage of birch switches as a cause of the recent apparent increase in crime is merely another phase of the problem discussed in relation to hangings. The types of parents who used the switch in the past now employ moral suasion, or forms of punishment that do not necessitate physical force, but their children do not become criminals in large proportions. The ones who become criminals are largely the children of parents who are themselves too weak to use either the switch or the modern methods with the patient, untiring persistence and intelligence which alone bring good results.

Who is right as to religious training, Dr. Karl Murchison or the Sunday Schools? Dr. Murchison implies that the average criminal has at least as good a religious training as the general run of men and women. He states, for example, that in the Maryland Penitentiary 86 per cent of the inmates claim adherence to some church, while 14 per cent are "frankly agnostic." On the other hand, there is abundant evidence that the child who goes regularly to Sunday School is far less likely to be a criminal than is the one whose parents want him to go, but succeed in making him go only a few years with great irregularity. The fact is that criminals claim to be religious because they want to get some sort of alliance with people who are notably free from crime. That genuine religious education checks crime somewhat as quinine checks malaria can scarcely be doubted, but it does not eradicate it. Religious training is unquestionably of extreme value. But to whom? Unfortunately our churches, especially the Protestant churches, are highly selective agencies where birds of a mental and moral feather flock together. Those who are by nature religious are the most faithful and thoughtful attendants; they get the benefit, but they are the kind who are not likely to be criminals under any circumstances.

Does poverty cause crime? Sometimes, for when people become desperate through want they may steal. But when poverty is imposed on high-grade people, such as many of those who settled America, it appears to stimulate thrift, industry and ingenuity, rather than crime. It is mainly the stupid, the lazy, or the emotionally weak who steal under the influence of poverty.

Drink is another fruitful cause of crime, but is it basic? Psychiatrists are generally agreed that men become drug addicts and drunkards through a weak emotional make-up. They may commit crimes under stress of their addiction, but that is a secondary, not a basic cause. Drugs and liquor rarely bring normal men under their spell.

Thus far we have been sampling the environmental factors in our test of causes of crime. A good environment is indeed potent in keeping the unstable man or woman in the straight and narrow path, but does it solve the problem of crime? Is it not more in the nature of a veneer which may protect rotten wood for a time, but which makes the crash still worse when it finally breaks and the feeble wood is put under a strain? Surely there is something radically wrong with the person who, knowing the advantages of right living, cannot live that way. Surely the man who was hanged for shooting a policeman when arrested for stealing a two-dollar watch was not normal. Some criminals may be thinkers, but they usually commit their offenses against society without having thought. We are inclined to follow the growing school of psychologists who believe that defective control of the emotions is the most basic of all the causes of crime. To what extent the native emotions may be improved by training no one seems yet to know. People with quick tempers, for example, or strong sexual instincts, do indeed learn to control them, provided they have firm wills and minds that are able to see the value of self-control. Nevertheless, the emotions still persist and can be kept from doing harm only through constant struggle. Apparently the

native emotions, like the native intellect, cannot be changed. They can be controlled and trained, but they are always a potent factor in the make-up of every human being.

If you have ever inspected an institution for the feeble-minded (as everybody should) you may have talked with able-bodied persons who seemed to have practically normal minds, even though they were not very clever. You wonder, perhaps, why they are confined. It occurs to you that you have known many persons who are no brighter but who are doing some sort of fairly useful work. Perhaps you think of the Negro who collects your ashes, or the old man with the boy's mind who delivers messages and runs errands on his bicycle. Well, the reason is probably this: the ash man and the old messenger may not be very bright, but they have sound emotions. The people in the institutions have defective emotions so that they cannot behave normally when an unusual situation arises—hence they have to be confined. The criminal who is in jail, or who ought to be there, is generally defective in the same way. Slums, shortage of birch switches, confinement in reformatories, and lack of religious education may make it harder for him to control himself, but an inherited mental weakness is apparently the most basic cause of his troubles.

Now, just what kind of brain commits criminal, anti-social, or asocial acts? Remember that the mind has two principal functions: to think and to will—the realm of the intellect and the realm of the emotions. These are separate functions, but in order to produce good results they must work together. We all know many people who act normally, but are stupid. They cannot get through school, but they frequently have such good dispositions that the teachers like them. They are simply weak in the realm of intellect, although strong in that of the emotions.

In the same way other persons are weak in the realm of emotion. Some may have virtually dead emotions, katatonic

(toned down), while others are over-emotionalized. Just as there are many kinds of intellectual defects and many kinds of intellectual superiority, so there are many kinds of emotional defects and high emotional development. A person with an emotional defect is abnormal. The outward evidence of the abnormality may range from such a mild thing as biting the finger nails to a raving mania; it may take the form of unreasonable depression alternating with elation; or the form of toned-down—feeble—emotions which seem to be the most frequent cause of crime. The criminal has a weak inhibiting apparatus; his conscience is out of plumb; his steering mechanism is out of order, whichever way you choose to look at it.

Let us think for a few moments of the mind as a team of horses. Let us call one horse Intellect, and the other Emotion. In a normal man both horses are sturdy and well proportioned. A good harness gives them the same sort of advantage that good training gives to a man. Now suppose that Intellect is an old, decrepit, grocery-wagon horse, while Emotion is a big, well-rounded Percheron, full of life, and quick to respond. Such a team would pull the load slowly; in other words, the person would be feeble-minded.

But suppose that Intellect is the big strapping Percheron, well suited to his work, while Emotion is a little, knee-sprung, wind-broken, spavined, sickle-hocked, Texas pony. The driver says, "Get up"; maybe the load moves and maybe it does not. If the pavement is hard and smooth, if there are no ruts, and the wagon can almost start itself, the load will move, but if the load is stuck in the mud and the driver tells the team to start, our good horse, Intellect, will do his best; so will Emotion, but they will seesaw in the harness. Emotion will make it even harder for Intellect to draw the load than if Intellect were hitched singly. Suppose again that this team is trying to draw the load uphill. If the hill is steep, good Intellect does his best, but at last becomes worn out and dis-

couraged. Suppose they are going down hill; both must hold back equally to manage the load properly, but little, weak Emotion cannot do his part. Then again suppose that the harness hitching the two horses is rotten and breaks. Neither of the horses can perform properly, and the load does not move. Training has been deficient. But notice this, so long as the harness holds and the road is hard and smooth, even a decrepit team can draw the load along without much trouble when once it is under way. When both horses are defective and the load is stuck in a rut, even though the harness is good, the poor load is in a bad way, and the driver is helpless.

These are the conditions which actually confront society with regard to the minds of defectives. Intelligence, as Doctor Murchison has shown in his book on *Criminal Intelligence,* has less to do with the making of criminals than is generally supposed. In fact, among the criminals of the United States Army the majority of occupations actually show a larger percentage of men whose intelligence is above the average than do the same occupations when the whole army is taken into account. Moreover, "Criminals from the unskilled trades," as Murchison puts it, "are about as intelligent as the other members of their trade. But criminals from the skilled trades are more intelligent than are the other members of their trade." This seems inconsistent with the statement made in the Army report (*Memoirs of the National Academy,* Vol. 15) that "low grade men are two to three times as likely to commit offenses as men of average intelligence, and from four to six times as likely to get into trouble as are men of markedly superior ability." This last statement seems to agree with other evidence, such as Hollingsworth's study of *Gifted Children,* in showing that persons whose high intelligence enables them to practice professions or fill executive business positions seem to refrain from crime because of their good sense. That greatly reduces the percentage of criminals in the more intelligent groups. The truth of the matter seems to be that

although high intelligence does act as a deterrent to crime among people who are of reasonably sound temperament, emotional control is apparently correlated with crime far more closely than is intelligence. The chief part played by intelligence seems to be as a determiner of the kind of crime that a man commits. Counterfeiters are generally clever; sneak thieves stupid. In both cases, however, the emotions are defective. If a man with defective emotions finds himself in a tight place, even though his intellect may guide him, his emotions do not coördinate properly with his intellect and he resorts to asocial conduct in order to accomplish his purposes.

Among women, defective emotional control is more apt to lead to prostitution than to active crime. Here is a highly significant statement made by Dr. William J. Hickson, Director of the Psychopathic Laboratory attached to the Municipal Court of Chicago. It shows how active contact with criminals has led a psychiatrist to believe in emotional or temperamental weakness as the main cause of crime, and to the conviction that such weaknesses are largely hereditary.

"We have now tested some 2000 or more prostitutes in addition to having observed several thousand others sufficiently to make a diagnosis during the eleven years this Laboratory has been in existence, and we have come to the conclusion that dementia præcox is basic to real prostitution, and that the intelligence level is only incidental.

"All of our real prostitutes show evidences of, and are such because of their dementia præcox make-up. They are the female equivalent of the boys in the Boys' Court who are criminals for the same reason. We find among these boys and girls all degrees of intelligence, from fairly high to fairly low and the only influence the intelligence exerts is as to whether they are high-class, middle-class or low-grade prostitutes, just as we find in the Boys' Court those of good intelligence furnish the confidence men, check forgers, swindlers, and the like. Those of a little lower grade—pickpockets; of the next lower

grade—the safe blowers; those of the next lower grade—the hold-up men and burglars; and the lowest grade—those that commit petty larceny.

"Practically all of our prostitutes have had Juvenile Court or other delinquency records before they get into the Morals Court. Many have had illegitimate children. Most of them have had venereal disease before reaching this court. Practically none are ever really reformed in spite of the fact that no end of organizations and workers have tried every conceivable means to bring about their reformation and restoration. However, they have been contending with an insurmountable obstacle all these years—namely, dementia præcox, which is an hereditary and constitutional mental disturbance which is basic to their abnormal behavior.

"It is only where one has the advantages of having a Morals Court at one's very door, as in our case in the City Hall, that one really learns just what prostitution means, and by mere deduction one would well conclude that there must be something radically abnormal about a person who persists in leading such a life and that that anomaly must be outside the sphere of the intellect and in that of the affectivity. Such cases, unquestionably, are lacking in normal emotional reaction. Heredity—I think, is the ultimate basic factor to all of these problems (of crime)."

This is an extreme statement and obviously its validity depends upon the meaning of the term "real" prostitute. There has been little opportunity to test the intelligence of the woman who consorts with only a few men at one time. Nevertheless, it seems to stand to reason that few normal women would be inclined toward such a life.

When a normal person commits a crime and is punished, he is not likely to be found repeating. Records from the Boys' Court at Chicago show this convincingly. That is why a normal person ought to be punished. Such a person will feel ashamed, and his first offense is likely to be his last. Most

criminals, however, are repeaters, some serving ten or even twenty sentences. At Chicago the insane or defective boys come back into court time and time again. It is these boys that make reformatories.

Competent psychiatrists can often predict the general future of defective boys with considerable accuracy. For instance, some years ago two brothers committed murder. One was hanged and one, because of his youth, was imprisoned for life. The doctor in charge immediately looked up the remainder of the family. He found that the father had been killed in a gang fight in a saloon, the mother was in an insane asylum, the sister a prostitute, another brother in a reformatory. Nothing could be learned about a fourth brother, but the doctor felt almost certain that he would some day turn up in the criminal courts. The boy who was in the reformatory was brought to the doctor's laboratory, where he was found to be dangerously insane, although to the average man he was just a "bad boy." The doctor committed him to the State Insane Asylum, stating on the commitment papers that the boy would be likely to kill if liberated. At the Asylum he was in an environment where he was not in conflict with the hard world. His mind could draw the load. He was well behaved, without depression, and so on. The superintendent—a "psychiatrist"—followed the fashion of the day and gave the boy his freedom. Only a few days later the released young murderer burglarized a home and shot the father of a fine family. Recently the other brother was caught trying to shoot a detective because he laughed at him for kicking his auto and then throwing a monkey wrench through the windshield. A few weeks later he was shot and killed by a detective while committing a burglary. His intellect was feeble, and his emotions were warped, to put it mildly. According to some good souls, this family went to the bad because of lax home training, and other sociologic disadvantages. That is partly true, but is not such laxity merely a symptom, not a cause? Does

not this family suffer from a heredity which causes defective brains?

What then shall we infer as to our American inheritance? What is the meaning of the fact that according to conservative estimates, crime apparently costs the United States over $10,000,000,000 every year. Yes, nearly $100 per person,

United States   England
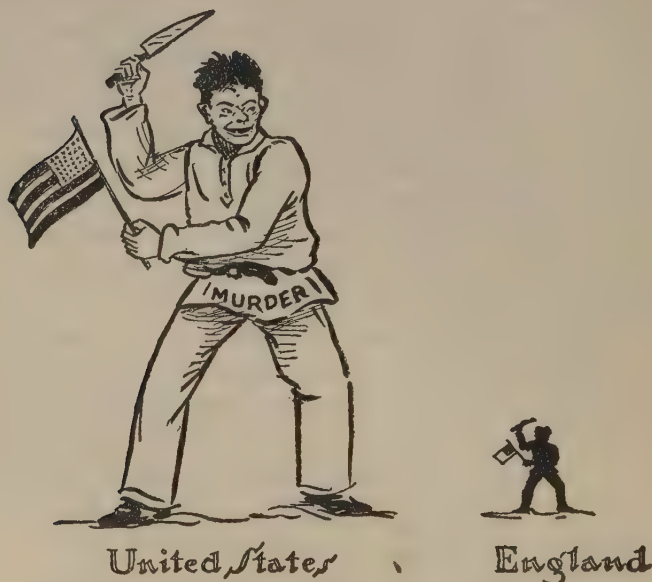
THE U. S. IN 1925 HAD MORE THAN TWENTY-THREE MUR-
DERS TO ENGLAND'S ONE ON THE BASIS OF POPULATION.

$500 per family. Do you doubt this? Well, here are some of the facts. New York City spends $8 per person each year on police and law enforcement alone, and a number of other cities spend at the same rate. But that does not include the cost of courts, private detectives, private watchmen, massive safes, watchdogs, locks, burglar alarms, insurance, and many other items. A criminal conviction is in itself a very expensive job. Dr. Frank Moore estimates that in New York, on an average, it costs $2,200 to find, prosecute and punish

a criminal. In Chicago, which has the reputation of being the wickedest city in America, if not in the world, it is estimated that the direct financial loss due to crime amounts to $33 per person each year. This does not include the indirect loss which is even greater.

Think of the matter in another way. In 1925 over 11,000 murders were committed in the United States—one murder for every 10,000 of our population, whereas England had less than 200, or one for every 236,000 people. St. Louis alone, without help from any one else, has more killings than England and Wales. Philadelphia has far more murders than the whole Dominion of Canada. In Jacksonville your chances of encountering the lead or steel of the murderer are about one in 2,000; if you are a man and an adult, they are only one in a 1,000. Worst of all, the murders are increasing at such a rate that their number per 1,000 people is twice as great now as in 1900.

Other crimes are equally prevalent. As long ago as 1915, as Raymond Fosdick shows in his book on the American police, London had one-eighth as many burglaries as New York, although it had a somewhat larger population. New York alone had almost twice as many as the whole of England and Wales. In 1919 Chicago, with less than half of London's population, had 2,146 more burglaries. Even Detroit and Cleveland, with only about a million people apiece, pass London in this respect. Each had about a quarter as many burglaries as all England and Wales. If such facts are not enough, think of the police strike in Boston in 1919. The moment the force of law was removed, people who were unable to control their desires except with the help of the police began an orgy of crime. Mobs surged to and fro in the streets, windows of stores were smashed, and pillaging began right and left. Volunteer police and army troops soon restored order, but without them Boston would have suffered irretrievably. A railway conductor said to one of us, "I

thought I had seen bums and hoboes and every sort of crook
in my smoking cars, but till that strike I never had any idea
how many of them there were. They jammed every smoking
car till there wasn't room to stand, or sit, or walk—all going
to Boston to have a hand in the fun. My God! What a
bunch there were!"

Here is a quotation from the report of an investigation
made for the New York Police Department.

"The annual crime loss and penalties paid for criminal
operations in the United States was three times the national
budget during 1923, and more than three times the customs
and revenue receipts for the same period.—The annual cost
of crime to an American city the size of New York would be
about $558,000,000 and the direct financial loss to the people
probably would exceed $180,000,000.—Based on reliable esti-
mates about 200,000 persons are under restraint as prisoners
in the United States. This, however, represents only about
one-fifth of the criminal population. If the annual produc-
tiveness of an individual is estimated at $1,500 the industrial
waste represented by the criminal population is $1,500,000,000
annually."

Now for the summary of the whole cost per year. In the
New York *Times* of September 20, 1925, Mr. Edward H.
Smith puts it thus: Direct loss through theft and destruction,
at least $3,500,000,000; indirect loss due to the work of pre-
venting crimes and detecting, trying, punishing and reclaim-
ing criminals, another $3,500,000,000; indirect economic loss
through idleness of the criminal population, including not only
the criminals, but the women and children whom they sup-
port, about $2,500,000,000; to which must be added various
other items such as bad checks, fraudulent failures to pay
bills, political bribery, arson, and many other criminal prac-
tices as to which no estimates are available. Thus we get a
total of not less than $10,000,000,000. The actual loss includ-
ing the waste of time by good people in trying to circumvent
or reform the bad, may rise well above this figure.

In the *Manufacturers' Record* for February 24, 1927, Mr. Mark O. Prentiss, who organized the National Crime Commission in 1925, gives some even more startling figures. Here is how he begins his article: "Estimates of the bill this country pays for crime vary greatly. Burdette G. Lewis, former head of the New Jersey State Department of Institutions and Agencies, has put the figure at $3,500,000,000. William B. Joyce, chairman of the National Surety Company, puts the total at $10,000,000,000—$4,000,000,000 actual money losses and $6,000,000,000 for enforcement. The first estimate, that of Mr. Lewis, is absurdly low; the estimate of Mr. Joyce, though staggering enough, is well below the actual total. Directly and indirectly, crime costs this country an economic loss of at least $13,000,000,000 a year. Even this estimate is forced to leave out of account many items which, if they are appraised, would carry the total $3,000,000,000 higher.

"In other words, the economic cost of crime to this country exceeds the total of the war debts. Every year the United States loses more money in its war on crime than the $11,000,000,000 advanced to Europe during and since the war. Every year the United States foots a crime bill as great as the money cost of a year of our war with Germany."

Here are the details of what Mr. Prentiss calls the lowest ascertainable estimate of the economic consequences of crime.

Losses through fraud:

Fraudulent securities	$500,000,000
Forgeries	100,000,000
Embezzlements	150,000,000
Worthless checks	120,000,000
Fraudulent bankruptcies	400,000,000
	$1,270,000,000

Property losses through burglary, robbery, etc.:

Transportation thefts	$500,000,000
Thefts from warehouses, etc.	525,000,000
Thefts from the mails	10,000,000
Value of 12,500 murdered persons	125,000,000
	$1,160,000,000

Cost of law enforcement:

Federal, State and municipal police and prison budgets ...	1,000,000,000
Cost of criminal justice and legal expenditures	3,000,000,000

Waste of crime: $4,000,000,000

2,000,000 criminals at $1,500 a year	$3,000,000,000
400,000 police, etc., at $1,500 a year	750,000,000
Commercial vice	628,000,000
Drug traffic	1,000,000,000
Liquor traffic	1,000,000,000
Value of 12,500 victims of liquor traffic	125,000,000
	6,503,000,000

Grand total cost of all crime $12,933,000,000

"Nearly $13,000,000,000! and I have barely scratched the surface of the cost of crime. I have omitted any estimate on the loss through illegal betting and gambling. I have not touched on the vast sums used in bribery and graft. I have not even attempted to enumerate the full losses in property, nor the full cost of enforcement.

"Consider where the crime cost carries you, if you accept as authentic, and I myself do unreservedly, the estimate of $4,000,000,000 in property losses and $6,000,000,000 for law enforcement.

"Add to this your own guess as to the extent of graft in the United States, the amount of money won and lost in gambling and the money tied up in financing criminal enterprise and the figure of $20,000,000,000 a year comes well in sight."

Can you imagine what this country would be like if ten or twenty billion dollars a year were added to our national income? That would mean $500 or $1000 per family. But the average to-day, even if we include Henry Ford, is only $2,500 or $3,000. What would happen if that sum were increased by 20 or even 40 per cent all around? Even if you can imagine the result, do you realize what it would be like to feel no need of locking doors and windows, no fear of leaving your car unprotected, no danger that your wife or daughter would be insulted or you yourself sand-bagged if you went out at night, no fear that you would have any uncollectable bills

except through accident or unpreventable misfortune, no fear
that in a political election there would be any bribery or in
politics any graft, and no fear that any one anywhere was

FIGURATIVELY SPEAKING, CRIME COSTS EVERY INDIVIDUAL IN THE
UNITED STATES $100 A YEAR.

trying to "do" you? Can you imagine all that? It would
almost be heaven on earth. Of course it cannot happen. Yet
if all the Destroyers of civilization could be eliminated, and
if the traits of the rest of us that come from destructive
strains could be eliminated, an approach to such a state some
hundreds of years hence is by no means inconceivable.

Having seen the terrible cost of crime, let us attempt to estimate the size of the criminal class. Already we have quoted a statement which implies that the criminals in the United States number about 1,000,000. Mr. Prentiss puts it at 2,000,000. Let us estimate the number in another way which seems to give a truer picture. Every 90 seconds some one is committed to jail in the United States. In 1923, on January first, approximately 110,000 persons were confined in the criminal institutions listed in the Census Bureau's Annual Report on prisoners in jails and prisons, while 357,000 were committed to such institutions during the year. About 92 per cent of those thus committed were men, but the women of the same social level are doubtless equally poor in caliber. Even if they are not criminals, they have no aversion to crime, and a very large proportion are prostitutes, either publicly or privately. Moreover, as the census report puts it, "It must be emphasized that these statistics of sentenced prisoners are not by any means an adequate index of the number of crimes or misdemeanors actually occurring. A large proportion of law-breakers are not apprehended. Of the persons who are arrested only a part are indicted and convicted [even though guilty]. Finally, the statistics herein presented do not include the large number of convicted offenders who receive suspended sentences, nor the still larger number who get off with the payment of fines. Thus the limited number who are committed to prisons or jails under sentence represents in general only a fraction of the full number of offenders."

Just how large this fraction actually is cannot be determined with any accuracy. Let us assume that it amounts to one-half, which is far less than the ordinary estimate. Professor John B. Waite of Michigan University says that "less than one out of every ten of those who commit serious crime in the United States" is punished. Perhaps he is right. One judge in a New York Court of Sessions had 20,145 criminal cases on his docket, but only 2,134 ever came to trial and not all of those

resulted in convictions. Nevertheless, let us be highly conservative and assume that half the criminals receive some kind of jail sentence, even if they get only one year for murder, or 30 days for burglary. That would make approximately 650,000 men over eighteen years of age who committed crimes worthy of jail or prison sentences in 1923. In 1910 the corresponding number was about 850,000 even though the population was less than in 1923, while in later years the number has again risen. But let us use the lower number. Even so we find that each year one in every 53 among the men of the United States over eighteen years of age appears to commit a crime worthy of a jail sentence. Even if we make allowance for the fact that the same man is sometimes convicted twice in one year, at least one in sixty or seventy must be guilty to this extent.

This does not give the full measure of iniquity. That can be judged only when we know how large a percentage of the men of the country are criminals *at any time* during their lives. The most likely time for the commission of crime is between the ages of 20 and 25. Take the five-year period between the beginning of the twentieth and the end of the twenty-fourth year. In 1920 the United States contained 4,527,000 young men of that age. In 1923 approximately 48,500 of that number were committed to jail or prison, while those who committed crimes worthy of such sentences appear by our conservative estimate to have numbered at least 97,000. But we are dealing with only a single year, and it takes five years for a young man to pass from his twentieth to his twenty-fifth birthday. If he does not commit a crime in one of those years, what are the chances that he will do so in another? Of course a great many criminals are repeaters. According to Mr. R. W. Child, in *The Saturday Evening Post* in 1925, the records of police departments show that from 25 to 35 per cent of convictions are repeaters. If all criminals who are not convicted were also included, the

number of repeaters would be much larger. Just how large
it would be, no one can tell, but in order to keep our final
figure as low as is reasonably possible, let us say that half of
the young men who are convicted between the ages of 20
and 25 are repeaters, and that each repeater commits an
average of one crime each year, which seems to be a high
allowance. Even so, the result is appalling; 241,000 young
men appear to be guilty of serious crimes during the first five
years of their adult manhood. That makes one out of every
sixteen. Such a huge proportion seems scarcely credible, but
at every point we have framed our estimates in such a way
as to keep the apparent proportion of criminals as low as is
reasonably possible, and perhaps much lower. If we add the
very considerable number who refrain from crime between
the ages of 21 and 25, but are guilty at other ages, it seems
hard to avoid the conclusion that at least one in every 10 or
12 of the men of the United States commits a crime worthy
of a jail sentence at some time in his life. We frankly con-
fess that we can scarcely believe our own figures, but the facts
seem to be quite clear in indicating that the case can scarcely
be better than our estimates.

Then seven to ten per cent of our whole population belongs
to the criminal classes? Impossible! But how else can the
facts be interpreted? Women and children commit far fewer
crimes than men, but each great class of society is made up of
women and children as well as men. Women are unfor-
tunately the wives, mothers, sisters, and daughters of such
men; and the children of men who commit crime are often the
grandchildren and great-grandchildren of criminals. If seven
to ten per cent of our population belong to the group in which
criminal tendencies prevail, it scarcely seems overdoing the
matter to infer that at least five per cent inherit serious emo-
tional weaknesses which permit them to fall into crime when
the bars are let down. An even larger percentage probably
grow up in homes where the training predisposes the children

to crime. If Professor Waite and others are right, this figure should be several times as large.

How has so menacing a condition arisen? It seems to us that the most fundamental of the many causes which co-operate to this end has been largely overlooked and lies in the adverse selection which has characterized the United States for two or three generations. Only a few incorrigible optimists have any real doubt that the average quality of our immigration has gradually declined since colonial times. But that is not the most essential feature. The great underlying causes of our tremendous criminal record, as we see it, the causes which permit the decline of religion and morality and the growth of the lawbreaking spirit, are briefly these. First, the process of selection which accompanies all migrations has brought to us from Europe an unusually energetic set of peo-ple, more energetic than the average of the classes from which they are sprung. Second, that same migration has brought an unusually large number who are restive and discontented, or perhaps unwilling to abide by the laws of their own lands. This is illustrated by the fact that in Connecticut, for example, we have found that among the men over 21 years of age who broke the game laws during the years 1918-1925, those bear-ing non-British names numbered 7.6 per 1,000 of the men of non-British stock in the state, whereas those bearing British names numbered only 3.7 per 1,000 men of British stock. Similar tendencies, as Doctor Laughlin has shown, appear in other lines and in practically all parts of the country.

But even yet it is doubtful whether we have touched the most serious cause for the great increase in crime in the United States. We cannot speak with certainty, for the facts are still doubtful. Nevertheless, we are convinced that the gradual rise in the tide of crime in the United States is due, not merely to unwise immigration, or to the great body of causes set forth at the beginning of this chapter, but in still larger measure to a deeper and more vital cause. That cause

is the rapid decline in the number of children in the high-grade families which do not furnish criminals. The result has been that among the native white stock of America, the law-abiding, law-enforcing elements have declined very rapidly in the past few generations, whereas the lower types who are willing to commit crime, or who lack the emotional control which prevents them from committing crime, have rapidly increased. These latter elements, together with the similar elements among our immigrant population, have almost swamped the declining group who might prevent the country from going to the bad, if only there were enough of them.

CHAPTER IX

POLYGAMY, MONOGAMY AND DIVORCE

In preceding chapters we have seen the facts as to the diverse birth rates among different classes of modern society. We have also seen that the problem before us is fundamentally biological, even though training enters into it continually. The next thing is to examine more fully the steps leading up to the present dangerous condition of a differential birth rate where the dice are heavily loaded against progress. An examination of the history of marriage may give some light on this question, and may even suggest some ways in which the present evils can be corrected.

The institution known as marriage illustrates an age-old tendency for social gain to take place at the expense of biological loss. The general line of development appears to have been from temporary polygamous unions to permanent polygamy; thence to strict monogamy; and then to a condition where divorce is so easy that a sort of polygamy again prevails. In a low stage of human culture, neither men nor women are held to strict rules as to the other sex; then limitations are imposed upon the married women, while the men and girls are still free; next the girls are prevented from having relations with the other sex before marriage and the penalties for transgression among married women are greatly strengthened. In due time a similar prohibition against prenuptial relations is gradually imposed upon the men, but it develops much more slowly than among women. Only in certain limited groups, such as the most self-controlled and strong-minded elements of the English-speaking peoples, have strict monogamy and a single standard of sexual relations for

both sexes ever actually prevailed. Elsewhere these have generally been merely an ideal. When this high ideal breaks down, the standards among men generally decline faster than among women, divorce is rendered easy, and prostitution and illegal relationships become common.

Biologically the most favorable stage in this ascent and descent of the institution of marriage appears to occur when three distinct conditions prevail. First, polygamy is the established custom; second, the girls of the better type are rigidly protected from the other sex and the sexual relations of married women in the upper classes are strictly limited to their husbands; third, the men still enjoy complete sexual freedom, except in respect to women of the social classes above them. Socially, on the other hand, the highest stage appears to prevail when strict monogamy is the rule among all classes, and when a single standard of sexual relations prevails among both sexes. Under such conditions the home becomes exalted as the center of culture and training. Is there any possible way of combining the advantages of these two stages?

Let us gain a clearer idea of the contrasts between the marital systems that appear to be biologically and socially best. Let us also see how each compares with our present system. We shall not discuss the vexed question of whether primitive men and women ever lived together in complete promiscuity. Probably they never did, for the stronger men may always have gathered about themselves a group of women who cooked and performed other services in exchange for protection and food. Nevertheless, among many primitive people both girls and women are so poorly protected and so little respected that the paternity of their children is more or less a matter of accident. Under such conditions rapid biological progress is not to be expected on the basis of selective mating, although it may take place for other reasons.

Where polygamy is highly developed, and especially where

the women are carefully protected, a much better biological condition would seem to prevail. In every community certain men excel their fellows in physical vigor, intelligence, and the complex mental states which are summed up in the word temperament. Such men become leaders in war, religion, government, art, craftsmanship, commerce, industry and other lines. They thereby acquire wealth and power above that of their neighbors. In a polygamous state of society one of the first uses to which such wealth and power are put is almost always to acquire a number of wives. The men who have the finest all-around development, so that they excel on all three sides of their natures, physical, intellectual, and temperamental, are the ones who rise to positions of greatest power and authority as military leaders, high priests, nobles, kings, merchant chiefs, or owners of great industries. Such men secure more numerous and more desirable wives than do any others. In fact their greatness is often measured by the number of their women.

The women of these able men may be obtained by purchase, barter, capture, gift, or ordinary marriage. They may be legally wedded wives, concubines, or slaves. All this is a matter of detail. The important point is that at the stage of social progress now under consideration, the wives of the men who excel in physique, temperament and intellect are almost certain to be relatively numerous. They are almost equally certain to be well above the average not only in beauty, which as a rule includes physical vigor, but in charm, which means temperament, and likewise in intelligence, which is another essential of charm. In spite of many assertions to the contrary, no careful observer can fail to see that in the long run, other things being equal, the intelligent girl is more attractive to the intelligent man than is the stupid girl. She also tends to be prettier. At least that was the verdict of a class of girls at Columbia College. They rated one another according to

personal beauty, and the pretty ones averaged higher intellectually than did the homely ones. It is doubtful whether any stupid woman ever became famous for her beauty.

In a state of society such as we are here considering, the man who most fully combines great physical vigor with a fine temperament and high intelligence, is likely to have not only the most numerous and attractive wives, but the greatest number of children. Rameses II was one of the greatest of the kings of Egypt. He had the usual array of wives and concubines, and is said to have had about 160 children, two-thirds of whom were boys. King David is reported to have had 19 sons, "besides the sons of the concubines," while Harold Fairhair of Norway divided his kingdom among "about 20" sons. In later days, among the Mormons, Brigham Young had 56 children by 16 of his 27 wives, the other wives being mostly widows who were married late and already had children. The children of Brigham Young were born at various dates all the way from 1825 to 1870, but no less than 44 of them survived their father, who died in 1877 at the age of 76. Heber Kimball, another Mormon leader, had 45 wives and 65 children; while John D. Lee married 19 wives who bore him 64 children. Hundreds of other similar records could be cited from all periods of human history.

Do you imagine that these men, especially the kings and great men of old, took ugly, ill-tempered, cowardly, irresolute, or stupid girls into their harems? How do you suppose the wives of Rameses II compared with the Follies Girls of New York in beauty and charm, or with the girls of Wellesley College in innate intellect? Go to some Mohammedan region where polygamy prevails, but the women are unveiled, as among the nomadic Khirghiz; or penetrate the interior of a rich house in China. The wives of the chief men in such places may be ignorant and even childish, because of their seclusion, but they are certainly pretty, intelligent and charming according to the standards of their countries. Indeed

A typical set of Mormon grandchildren whose parents were monogamous but whose grandparents were polygamous. With the ideal of large families still prevailing, the Mormons are increasing. Contrast their average of 5.3 children per family with the 2.8 among all the other families in "Who's Who."

they are often charming according to almost any reasonable standards. Put yourself in the place of a powerful chief. Would you be content with anything but the prettiest, most charming and most intelligent wives if you had free choice among the thousands of girls around you?

When the men of the best all-around type take many wives who are also of the best all-around type, their numerous children inherit fine qualities from both parents, and are relatively likely to live, because well cared for. The wives are so well protected that they rarely have children by men other than their husbands. Thus the upper classes maintain and even improve their inheritance. The husbands, on the other hand, according to the standards of their day, frequently take women of the lower classes, especially when they are away from home. As a rule they take only those who are unusually attractive. An old document of the Middle Ages states the case very clearly. It is a letter from the king of France, or some similar man, in which he thanks his noble host not only for the high quality of the food and drink provided for the king and his retinue, but for the attractiveness of the women. Thus the high inherent qualities of the leading men are joined with the best stocks among the lower classes. The net result is that the inheritance of both the upper and the lower classes is improved.

Under the same social system the stupid, ill-tempered weakling gets the ugliest, weakest, stupidest, or most ill-balanced kind of wife, as happens under other social systems. Or he may get none at all. Even if he has a dozen children, they are less numerous than those of his chief. Moreover, their death rate is almost certain to be far higher than that of the children of the favored upper classes. Under conditions of unusual stress, such as war, famine, disease, or over-population, the children of the weak and stupid die off with great rapidity. Thus the lower classes bring relatively few children to maturity and may decline in numbers, while the upper

classes continue to increase. The population therefore tends to be built up from the best elements.

If a population thus improves its biological inheritance, its increasing ability may in due time lead it toward monogamy. That is what has happened in our own case. The biological advantages of polygamy are not apparent to the ordinary person, while its social disadvantages are blatant. As soon as women rise to a level where they see their own problems intelligently, and are able to enforce their will upon society, they demand monogamy and a single standard of sex relations. As the men become more intelligent they, too, see that polygamy is socially unwise. The sum total of human happiness seems to be greatest where monogamy is practiced, where husbands as well as wives are absolutely true to one another, and where it is consequently possible to have the highest type of home. Only under such conditions can children fully enjoy the inestimable benefit of the love and companionship of a father as well as a mother. Only in such homes do we find the sort of exuberantly happy life which many of us look upon as the greatest of all blessings, the dearest of all memories. Only there, as a rule, do we find the kind of happy, healthy, sturdy training that steels a boy or girl against temptation.

What then shall we do? Shall we continue our present social system until its effect on the germ-plasm of the race causes society to collapse, and ushers in a return of barbarism? Some such deterioration probably coöperated with other unfavorable influences in causing the collapse of ancient Egypt, Mesopotamia, Greece and Rome. In order to avoid their fate shall we consciously set aside our present social system and revert to polygamy and its attendant practices? That might be better than letting ourselves slip back into utter barbarism; but it would waste some of the finest flowers of human progress. It would also leave our descendants once more to climb where we have climbed, and perhaps fail where

we have failed. Is there no third alternative? We believe there is. We believe that the world can retain the monogamous family, elevate woman to a higher position than she yet occupies, and raise the level of sexual relationships to the point where a single standard prevails for both sexes. And with all this we believe that society can be so remodeled that we shall obtain the highest eugenic benefits and yet lose none of the fundamental advantages of our hard-won social progress.

How all this may be done, or rather begun, for that is as far as we can yet go, will be considered later. Here let us examine still further into the contrasts between our present state of society and the state where polygamy and the other conditions defined above cause the men of finest physique, temperament and intellect to be the fathers of the largest number of children. Under such a social system many other subsidiary conditions also tend to cause the children who are born with a high inheritance to be proportionally far more numerous than among us.

The first of these conditions is that practically all the women are married, no matter to what class they belong. Almost the only exceptions are a few who are so unattractive that no one wants them, and sometimes a few who for good or ill are set aside for religious reasons. This is immeasurably better than our system. With us practically all the low-grade women are married, but only perhaps four-fifths of the high-grade women, and scarcely more than half of the graduates of some of our finest colleges. How badly this cuts the birth rate among the finest types of mothers we have already seen. A second familiar condition is closely associated with the proportion of women who are married. Where all the women are married, their age at marriage is almost invariably low. In a polygamous society, such as we have described, the girls are generally married by the age of sixteen. The period during which they can bear children is correspondingly long.

Some, to be sure, are married later than sixteen, but they are generally girls who are especially lacking in attractiveness by reason of defects in physique or temperament. Sixteen is doubtless far too young for marriage, both physiologically and mentally, and the present greater age is a distinct social gain. But let that pass for the present. The good feature of the old method is that girls of all classes marry at the same age. This again is vastly better than our system where women of the finest types, both intellectually and temperamentally, are especially likely to be married late. The more women seek education, self-development, self-expression, careers, and a good time like that which men are supposed to enjoy, the more likely they are to put off marriage.

Repeated investigations have shown that the number of children declines with almost perfect regularity as the age at which women marry increases. Equally conclusive evidence shows that in general the age of marriage rises from the less competent to the more competent ranks of society. Thus the more fully the girls fall in the class of Builders, the older they are when married, and the fewer their children, even if there is no such thing as birth control. In the old days of polygamy there was little or no birth control. The girls with the best intellects and finest temperaments married as young and had as many children as did those who were stupid and uninteresting. This is what happens among royal families, as has been shown by Woods in his famous study of *Heredity in Royalty*. His work and that of others seems to indicate conclusively that, other things being equal, intellectual women have as many children as those who are not intellectual. In the old polygamous days the other things were equal, or rather the intellectual women had an advantage because they showed better sense in bringing up their children and thus did not lose so many.

A third way in which the social system of the past was eugenically better than ours is the percentage of the men of

different classes who were married. In the old days almost
the only men who remained unmarried were those who were
so poor and inefficient and came from such low families that
they could not get wives by hook or by crook. Every com-
petent youth, on the other hand, especially if he came from an
able family, was practically certain to be married young.
With us it is the other way, at least when the upper classes
are compared with the lower. Indeed, it is often said that
the more promising a young man is, the more likely he is to
marry late or to remain unmarried. We shall test this asser-
tion later, but it is true when intellectual workers are com-
pared with manual workers. Figure out for yourself the dif-
ference it would make in the birth of competent children if
college graduates were practically *all* married by the time they
are twenty, as would have been their lot if they had lived in
the old days with which we are here making comparison.
Practically all coal miners are married, their wives probably
average not much over 22 years of age at the time of mar-
riage; only 76 per cent of Harvard graduates are married, and
the average age of the women whom they marry is about 28
years. Such conditions not only give the miners an advantage
so far as the number of children is concerned, but make the
average length of a generation distinctly shorter than among
college men. That in itself, even if all other conditions were
the same, would cause the miners' descendants to be more
numerous than those of the others.

A fourth condition was very different formerly from what
it is among us. Under most social systems every family that
can have children does so. With us this is true among the
lower classes, but becomes less and less true in the upper
classes. The limitation in the upper classes has nothing to
do with health or intelligence, except that healthy people who
have good control over themselves, and intelligent people who
look far ahead—but not quite far enough ahead—are the ones
most likely to refrain voluntarily from having children. The

people whose germplasm is of little value, on the contrary, often have as many children as is physically possible, regardless of everything else. Right down the mountain from where we are writing lives a family in which the mother is said to be absolutely lacking in self-control. A baby is born each year—eight of them thus far. They will probably keep on coming until the strength of the mother is exhausted or the merciful menopause puts an end to her troubles. But among families of the upper classes health and strength often have little to do with the number of children. Women who might bear twenty children and still be in vigorous health, and who would have done so in the old days, may have only two—no more than the very fragile woman. Even though it is doubtless unwise for any woman to have twenty children, it surely would be well for society to be recruited from the children of the strong rather than from those of the weak.

This problem of the distribution of germplasm presents countless ramifications. In an earlier stage of society the parents arranged the marriages. This seems unfair to the children, and the present arrangement may be a real gain socially, but the eugenic effect of the old system appears to have been excellent. It tended to insure the marriage of all the young people of the better classes at an early age. It likewise promoted the union of families of similar grade, so that good stock was in less danger than at present of being diluted by poor. In addition the care of the parents insured that the finer young people should be married young instead of letting them wait until they became so hard to please that many of them never married at all. Here, as in so many cases, social gain seems to mean eugenic loss.

Another instance of the same kind is illustrated by the supposed *droit du seigneur,* or *jus primæ noctis.* This feudal custom, which is said to have prevailed in certain parts of Europe, gave the lord of the manor the right to demand that every young girl on his estate spend the night with him before

her marriage. Whether there ever was any such legal right is doubtful, but that its essence prevailed quite widely can scarcely be questioned. A barbarous custom? Certainly, but biologically good. Although the old feudal chiefs were sometimes men of low grade, their average was unquestionably high. Take any thousand of the nobility of Europe, chosen by accident. It is scarcely open to question that their children would possess a better average inheritance than would the children of a thousand peasants chosen in the same way, the mothers being the same in both cases. The social gain in abolishing such customs as the *droit du seigneur* unquestionably justifies their abolition, but how are we going to compensate the world for the eugenic loss thus sustained? Another case where our social conscience has been wide awake, but our biological conscience has been dormant!

The latest step in the evolution of the marriage relation has been from strict monogamy to consecutive polygamy. By this, as almost every one knows, we mean the present system whereby divorce is so easy and frequent that many people have several husbands or wives one after the other. In the United States during 1925 there were 184,000 divorces compared with 1,140,000 marriages—one divorce for every 6.3 marriages. Inasmuch as the divorces in 1925 numbered 9,000 more than in 1924, while the marriages numbered 40,000 less than in that year, one wonders how soon there will be one divorce for every five marriages, or every four, or three. In some of the western states the divorces already tread close upon the heels of the marriages. Even if we omit Nevada with its divorce mill and with one divorce for every marriage, the record of Montana, Wyoming, and Oklahoma, stands at less than four marriages per one divorce, and Oregon at not much over two. All this is a new development; no longer ago than 1916 there was only one divorce in the United States for 9.3 marriages, in 1906 one for 11.8 and 1896 one for 14.3.

Some people claim that easy divorce is a great step in social

progress; it allows self-expression and self-realization to a degree hitherto unprecedented, and ends the tragedy of unhappy, bitter homes. Perhaps they are right, but unfortunately easy divorce also leads husbands and wives to magnify little causes of friction which they would smooth over if they knew that they were irrevocably joined for long years to come. It also tends to make people magnify the little flares of interest in other persons of the opposite sex to which even the best of husbands and wives are subject. Many a man who is temporarily attracted by some pretty woman would promptly forget her, and get on splendidly with his wife if there were no possibility of divorce. As things now are, he lets his thoughts dwell on the new charmer and on the divorce court, and a home is wrecked. It seems as though the balance at present were against divorce. Yet if divorced people were not allowed to marry again until considerable time had elapsed, and if the world were inhabited by people much more high-minded than we are to-day, easy divorce might be of the very highest value in correcting the mistakes which inevitably arise in bringing together people of incompatible temperaments. Under such circumstances, if they ever occur, divorce will doubtless not be based primarily upon personal preferences, but upon careful consideration of the best course for the community as a whole, and especially for the children.

But even if free divorce will ultimately prove to be a great social boon, is it wise biologically? The answer here, as in so many other cases, involves a seeming contradiction. Easy divorce is apparently biologically advantageous when looked at from the standpoint of a single level of society, but disadvantageous when all levels are taken into consideration. The advantage to a single level of society arises in this way. The causes of divorce set forth so fully and nauseatingly in the newspapers are merely the froth on the surface. Thoughtful students are growingly convinced that a large proportion of divorces, although by no means all, are due to some form of

abnormality. The abnormality may be physical or mental. If physical, it may take such forms as malformations, sterility, or sexual impulses which are either inordinately strong or unusually sluggish. If emotional, it may take such forms as bad temper, melancholia, self-pity, extravagance, vanity and the like. Consider the divorced people whom you know. Do not they include many among whom at least one of each pair is unduly high strung, unduly preoccupied with the other sex, unduly fond of gayety, unreasonably sensitive, dangerously extravagant, or simply "queer" in one way or another? All of these things indicate emotional instability, and part of them are presumably hereditary. Moreover, some of them, when intensified by union with similar qualities in another parent, may lead to serious consequences such as mental derangement in the offspring.

Free divorce seems to be an admirable way of diminishing the number of such people. It helps to lower their birth rate to the point where they gradually disappear. Although few statistics are available, what there are agree with ordinary observation in indicating that divorce lowers the birth rate. The people who are ultimately divorced often live apart for some time before finally separating. They are not likely to want to have children by partners whom they have come to dislike, and they are especially likely to practice birth control. Moreover, as a rule, people who look upon divorce as a possibility at any time do not want to be bothered with children, especially if they desire to marry some one else. The new mate rarely wants a partner encumbered with a former mate's children.

Is it not a good thing that the birth rate should be lowered among exactly this kind of people? May not free divorce weed them out to such a degree that generations hence there will be relatively few who through jealousy, bad temper, uncontrolled nerves, hasty marriages, infidelity, incompetence, extravagance, moodiness, or other causes of discord are unable

to maintain happy homes? The speed with which such people are now being weeded out seems to be sufficient to accomplish important results within a few generations. Not only does the new freedom of divorce reduce the birth rate to such a degree that many divorced people have far too few children to maintain their numbers in future generations, but they themselves tend to die off, as has been humorously shown by Doctor Bundeson of the Chicago Department of Health: " 'Why do married men live longer than others,' asks the wag. His unsuspecting victim tries to explain, but the wag interrupts: 'They don't, it only seems longer.' But as a matter of fact, they do. Here are some actual figures as to the number of deaths per 1,000 among men of various ages and various states as to marriage. At all ages the proportion of deaths is greatest among the divorced men, next among those who are single, and least among those who are married.

DEATHS PER THOUSAND MEN IN 1925 IN CHICAGO

	Ages 25–34	35–44	45–54	55–64	65 and over
Divorced	15	18	37	56	116
Single	5	14	23	49	112
Married	4	7	14	29	80

This leads Doctor Bundeson to the following conclusion:

"It seems that marriage is certainly good for the health when we consider the young fellows of 65 and over. Out of 1,000 of these divorced boys, 116 play harps in heaven; out of 1,000 single fellows of the same age, 112 enter the angelic host; while out of 1,000 married youngsters of the same age only 80, with 'storm and strife' to contend with, knock at St. Peter's Pearly Gates. The lower the death rate the longer you live. If you want to live longer, get yourself married and stay married—permanently."

It is probably true that marriage tends to prolong life; physically, mentally and morally the strain is far less when one is happily married than when one is single, even though one be happily single. If this is so, easy divorce really does

tend to weed out the people whose temperaments make them unfit for married life. But doubtless the kind of people who are divorced would tend to die younger than the rest even if they remained married, for many of the defects which make them unhappy in marriage are due to ill health, self-indulgence and other causes which would shorten life under any situation. Thus free divorce cuts both ways. Not only does it cause the divorce-seeking type to have few children, but it actually may raise their own death rate. The final result, then, is that free divorce tends rapidly to eliminate a type which may contain many desirable people, but which also contains so large a percentage with undesirable qualities that the world is much better off because of the elimination. If divorce were free enough, we might almost hope that in due time it would become very infrequent, simply because the types of people who cannot remain happily married would become so rare as to be negligible. The same process would strengthen the home most wonderfully, it would intrench strict monogamy and high standards of sexual purity to an extraordinary degree. Just how rapidly this process of cleansing through free divorce is taking place no one can tell, but that it is actually occurring at a slow rate, if not rapidly, can scarcely be doubted.

The case for free divorce does not appear quite so strong when one considers its effect on the normal and valuable people who are divorced because they unwittingly marry the wrong people. It appears still worse when one considers its incidence in one level of society compared with another. Strange as it may seem, there are no recent statistics as to the rates of divorce among different classes of the population of the United States. In 1908, to be sure, the Census Bureau published a bulletin giving data as to the occupations of the husbands divorced from 1887 to 1906, and comparing the number of divorces with the number of men in each occupation. It appears that for every 10 divorces among a given number of

ministers or farmers, there were at that time 11 among iron
and steel workers; 12 among carpenters and blacksmiths; 13
among machinists and miners; 15 among lawyers, engineers
and teachers; 16 among men of all kinds engaged in trade and
transportation; 17 among those engaged in manufacturing and
industry; and 21 among those engaged in professional ser-
vice.   Journalists, musicians, dentists, commercial travelers,
and actors, show especially high rates, ranging from three to
seven times as high as those for farmers and ministers.   In
spite of exceptional occupations like the ministry, the general
tendency is toward more frequent divorce among the more
competent classes of the community.   How far that condition
still prevails we cannot tell, but even if it has diminished, the
fact remains that the greater power and freedom which their
own innate ability and their social inheritance bring to the
upper classes have hitherto made divorce relatively more com-
mon among them than among the lower classes.   The case is
like that of late marriage, birth control, and various other de-
terrents to large families.   The general classes of society who
are biologically best able to endow their children with a good
inheritance, and who are also best able to train them well,
are the ones among whom the new fashions, such as free di-
vorce, prevail earliest and, for a while at least, most commonly.

CHAPTER X

SOCIAL GAIN, EUGENIC LOSS

THE evolution of many other social usages resembles that of marriage in bringing social gain and eugenic loss. Infanticide is a good example. That mode of disposing of infants has been very widely practiced and still prevails more or less in China. It is common among many primitive tribes and has not wholly disappeared even among more highly civilized races. In the form of artificial abortion it occurs among modern peoples of European origin, and appears to be on the increase. Nevertheless, in its cruder forms it is almost unknown among us, although illegal abortion is doubtless widely prevalent. Infanticide has always been more common among the poor and incompetent than among the rich. It is one of the methods whereby people who lack the knowledge or self-control to prevent the conception of children nevertheless prevent unwanted children from being an economic burden. Biologically it is sometimes beneficial, for in general the more the children of such parents are reduced in number, the better will be the herditary constitution of future generations, but infanticide is extremely degrading socially.

Famine works in similar fashion. Most people do not realize the frequency of famines in backward countries. They afflict China, India, Russia, Turkey, and many other parts of the world at frequent intervals even now, and were far more common before railroads were in existence. In olden times they sometimes occurred even in countries like France. An ordinary famine, unless it becomes so severe that the whole population has to migrate, as often happens in China, tends to sift out the weaker individuals, leaving those who are phys-

ically strong, intellectually wise, temperamentally self-controlled, and economically sound. But modern civilization says that the ravages of famines must be prevented by caring for the incompetent. Thus famine as a eugenic agency is fast giving place to a dysgenic freedom from famine.

In war the same kind of evolution has taken place. In the old days skill of both hand and brain, when combined, usually meant that a man had good weapons, carried a shield, wore armor, and perhaps rode a horse. Moreover, in the distress and famine which war so often entails, the skillful man's family was well provided for. The man of strong physique but only mediocre brain, on the other hand, was less likely to be well accoutered and more likely to be hacked to pieces than was the man whose brawn was guided by brain. The stupid man, or the one with a weak physique, was often left at home because he was of little value in battle. Such men would have had far more chance than their braver, stronger, cleverer neighbors to become the ancestors of future generations except that they and their children fortunately bore the brunt of the famine, disease, and misery that follow almost all wars.

To-day, as foolishly as of old, we still pick out the young men who most excell in body, mind, and spirit, and kill them off in war. But we have added another consummate bit of foolishness. Not content with having learned how to a kill a whole army of our finest young men by means of poison gases, we devise all sorts of schemes to safeguard the lives of the less valuable young men who are not fit to be soldiers. To cap the climax we provide even the least competent of the stay-at-homes with abundant food and perhaps with medical service, and give them inordinately high wages so that they can marry while still mere boys. Thus during war time, while the finest young men are being prevented from marriage, even if they are not killed, we provide the less competent with better conditions than in normal times. Is this a social gain? It

certainly is a eugenic loss. Are the gods about to destroy us, that they have made us so uproariously mad?

Religion has been one of the world's most glorious social achievements, but it has also been one of the bitterest enemies of the Builders, and especially of their children. Its most effective method of warfare has been the stand which some religions take as to the celibacy of their best—their idealists. It is sometimes said that a religious celibate is a fanatic, and that the race is better off without the offspring of such persons. Those who know the facts are well aware that this is a mistake. The same inspiration which urges one man to become a Protestant minister, urges another to become a Roman Catholic priest. Both belong to similar high types. We regret that in so fundamental a thing as marriage the priests base their practice on a technicality. We grieve to see the race skimmed of its best—its idealists—in every generation. We know that no race can stand the process long.

Sir Francis Galton, the Father of Eugenics, has stated the case against religious celibacy so effectively that it behooves us to listen to him:

". . . The long period of the Dark Ages under which Europe has lain is due, I believe, in a very considerable degree to the celibacy enjoined by religious orders on their votaries. Whenever a man or woman was possessed of a gentle nature that fitted him or her to deeds of charity, to meditation, to literature, or to art, the social condition of the time was such that they had no refuge elsewhere than in the bosom of the Church. But the Church chose to preach and exact celibacy. The consequence was that these gentle natures had no continuance, and thus, by a policy so singularly unwise and suicidal that I am hardly able to speak of it without impatience, the Church brutalized the breed of our forefathers. She acted precisely as if she had aimed at selecting the rudest portion of the community to be alone the parents of future generations. She practiced the arts which breeders would use, who aimed at

creating ferocious, churlish, and stupid natures. No wonder
that club-law prevailed for centuries over Europe; the wonder
rather is that enough good remained in the veins of Europeans
to enable their race to rise to its present, very moderate level
of natural morality. . . .

"The policy of the religious world in Europe was exerted in
another direction, with hardly less cruel effect on the nature of
future generations, by means of persecutions which brought
thousands of the foremost thinkers and men of political apti-
tudes to the scaffold, or imprisoned them during a large part
of their manhood or drove them as emigrants into other lands.
In every one of these cases, the check upon their leaving issue
was very considerable. Hence the Church, having first cap-
tured all the gentle natures and condemned them to celibacy,
made another sweep of her huge nets, this time fishing in stir-
ring waters, to catch those who were the most fearless, truth-
seeking, and intelligent in their modes of thought, and there-
fore the most suitable parents of a high civilization, and put
a strong check, if not a direct stop, to their progeny. . . .

"The extent to which persecution must have affected Euro-
pean races is easily measured by a few well-known statistical
facts. Thus, as regards martyrdom and imprisonment, the
Spanish nation was drained of free-thinkers at the rate of
1,000 persons annually, for the three centuries between 1471
and 1781; an average of 100 persons having been executed and
900 imprisoned every year during that period. The actual
data during those 300 years are 32,000 burnt, 17,000 persons
burnt in effigy (I presume they mostly died in prison or es-
caped from Spain), and 291,000 condemned to various terms
of imprisonment and other penalties. It is impossible that any
nation could stand a policy like this without paying a heavy
penalty in the deterioration of its breed, as has notably been
the result in the formation of the superstitious, unintelligent
Spanish race of the present day.

"Italy was also frightfully persecuted at an earlier date. In

the diocese of Como, alone, more than 1,000 were tried annually by the inquisitors for many years, and 300 were burnt in the single year 1416.

"The French persecutions, by which the English have been large gainers, through receiving their industrial refugees, were on a nearly similar scale. Three or four hundred thousand Protestants perished in prison, at the galleys, in their attempts to escape, or on the scaffold, and an equal number emigrated. Mr. Smiles in his admirable book on the Huguenots, has traced the influence of these and of the Flemish emigrants on England, and shows clearly that she owes to them almost all her industrial arts and very much of the most valuable life-blood of her modern race. . . ."

Do any black and white figures give certainty to our misgivings concerning the harm done by the celibacy of religious people in our own day? The army tests suggest that the clergy as a group belong to an extremely high type. The army chaplains ranked second only to engineer officers; no less than 90 per cent of them would qualify as Builders intellectually, while the corresponding figure for the engineers is 96.

Consider the Roman Catholic Church, for example, with its 23,700 clergy in the United States. Professor S. S. Visher, as we have seen, has estimated that *Who's Who* for 1922-23 lists one son for every 20 families of Protestant clergymen in the United States. The different denominations vary a good deal, for the Methodist ministers supply only one eminent son for every 97 families and the Unitarians one for every seven. For the sake of argument, let us assume that the potential value of the average Roman Catholic priest as a father of eminent children is the same as that of the average Protestant clergyman. If that is so, Roman Catholic celibacy is responsible for the loss of 1,185 men who might be in *Who's Who*. Even a fifth of that would be a frightful loss! The loss becomes still worse when we remember that in addition to the 1,185 who might be

in *Who's Who,* we must take account of all the other competent sons who might be born to the 23,700 priests if the custom of celibacy did not prevail. Practically all of the thirty or forty thousand who might thus be born would presumably be Builders.

Then consider the celibate women, the 105,000 sisters, postulants and novices in the Roman Catholic Church and the smaller number in other communions. On the whole they are splendid types. Although some may become nuns because of weakness or failure, three-fourths are probably of the general material of Builders. Something like two-thirds of these must belong to the generation between the ages of 20 and 50. Thus in a single generation Builders are being eliminated from the race in this way alone at the rate of 55,000 women who might be the mothers of 200,000 children who would average far above the median not only in biological inheritance, but in the training that they would receive.

We wonder that the Holy Father of the Roman Catholic Church does not go up into the mountain and view his world in the light of eugenics. We should think a farmer either crazy or hopelessly stupid if he continually killed off his best animals and let the poorer do the breeding. Yet that is what religious celibacy, as now practiced, does to the human race, and especially the Roman Catholic branches. Religion should reverse its practice, and preach large families among its best and childlessness among its worst.

Religion has fought against the children of the Builders not only by the celibacy of its votaries, but by their devoted care of the weak and suffering and by their missionary zeal. Charity, philanthropy, or whatever we choose to call the kindly work of the strong for the weak, is often lauded as the finest fruit of religion. And so it is in a certain way, and so it will be to a far greater degree in the future when it learns the lesson of eugenics. At present, however, charity fails sadly, because it increases the birth rate of the unfit and preserves

the additional children who are born. This phase of the mat-
ter is discussed elsewhere. Here we want to point out that
charity is an enemy of the children of the Builders in still
another way. Under the loving protection of religion, charity,
and philanthropy, the people whose inherited mentality de-
mands that they be cared for by some one else increase faster
than do the keepers who are competent to take care of them.
Hence the keepers must give up more and more of their time,
energy, and substance to support the weaklings. This impov-
erishes the Builders, and thereby increases the economic dif-
ficulty of supporting children. A still worse result is that be-
cause the Builders are the type to whom the sufferings of their
fellows appeal most strongly, and because they are also the
type which is willing to sacrifice itself for the common good,
the Builders who care for the weaklings are especially likely
to have few children. Many of them, like the religious celi-
bates, remain unmarried for the sake of their work. Many
more accept pitifully small salaries and all sorts of privations,
and have only a child or two, because they are filled with the
spirit of charity. To many of them the greatest of sacrifices
is that they are forced to have small families.

Thus the vicious circle repeats itself. The charitable Build-
ers save and comfort the weak and incompetent at the expense
of their own unborn children; the weak and incompetent are
not prevented from having children; a new and larger crop of
weaklings and incompetents is born; more charitable Builders
are needed; and more unborn Builders are sacrificed. How
frightfully charity undermines the buttresses of society, boring
from within as if it were a traitor. And how easily it might
become the greatest ally of good inheritance in building up in-
stead of tearing down. "Now abideth faith, hope and charity,
but the greatest of these is charity." But charity, which is
only another name for love of one's fellow men, has been
blind. Oh, Charity, open thine eyes! Be kind to the future
as well as to the present!

Another way in which religion has depleted the number of the Builders is through persecution. Galton was not the only man of his century who saw the facts and realized their significance. In his *History of America,* John Fiske has a passage which illustrates the whole thesis of this book with extraordinary precision. It is very significant that after inserting "Dreadful Work of the Inquisition" as a first side-heading, Fiske inserts another to the effect that the Inquisition "was a device for insuring the survival of the unfittest."

"But it was not merely in the expulsion of the Moriscoes that the Spanish policy of enforcing uniformity was suicidal. Indeed, the disastrous effects which we are wont to attribute to that striking catastrophe cannot really be explained without taking into account another and still more potent cause. The deadly Inquisition, working steadily and quietly year after year while 14 generations lived and died, wrought an amount of disaster which it is difficult for the mind to grasp. Some eight or ten years ago an excavation happened to be made in the Plaza Cruz del Quemadero in Madrid, the scene of the most terrible part of Victor Hugo's *Torquemada.* Just below the surface the workmen came upon a thick stratum of black earth 150 feet long. On further digging it was found to consist chiefly of calcined human bones, with here and there a fragment of burnt clothing. Dark layers, varying from three to nine inches in thickness, were here and there interrupted by very thin strata of clay or sand.—This deposit was examined by men of science and antiquarians, and the newspapers began publishing the details of their investigations, whereat the clergy grew uneasy, and persuaded the government to have the whole stratum dug away and removed as quickly as possible, so as to avoid further scandal.—A singular kind of geological problem was thus suggested; how many men and women must have died in excruciating torments in order to build up that infernal deposit? During the fifteen years when Torquemada was inquisitor-general, from 1483 to 1498, about 10,000 persons were

burned alive. The rate was probably not much diminished during the sixteenth century, and the practice was kept up until late in the eighteenth; the last burning of a heretic was in 1781. From the outset the germs of Protestantism were steadily and completely extirpated. We sometimes hear it said that persecution cannot kill a good cause, but that 'the blood of the martyrs is the seed of the church.' This is apt to be true because it is seldom that sufficient unanimity of public opinion is enlisted in support of persecution to make it thorough. It was not true in Spain. The Inquisition there did suppress free thought most effectively. It was a machine for winnowing out and destroying all such individuals as surpassed the average in quickness of wit, earnestness of purpose, and strength of character, in so far as to entertain opinions of their own and boldly declare them. The more closely people approached an elevated standard of intelligence and moral courage, the more likely was the machine to reach them. It worked with such fiendish efficiency that it was next to impossible for such people to escape it; they were strangled and burned by tens of thousands, and as the inevitable result, the average character of the Spanish people was lowered.—Under the rule of the Spanish Inquisition all the zeal and energy which we now devote to developing and stimulating popular intelligence was devoted to stunting and repressing it.—The brightest and boldest were cut off in their early prime, while duller and weaker ones were spared to propagate the race; until the Spaniard of the eighteenth century was a much less enterprising person than the Spaniard of the sixteenth. Such damage is not easily repaired; the competition among nations is so constant and so keen, that when a people have once clearly lost their hold upon the foremost position they are not likely to regain it."

Perhaps it is hardly fair to saddle religion with the ill effects of superstition. True religion certainly fights most valiantly against all forms of superstition. Yet unfortunately

religion has in many instances helped to cause people to cling to beliefs which in due time come to rank as gross superstitions. One of the most pernicious and tenacious superstitions is that God made defectives, and therefore they are a special charge upon the most faithful of his children. Did God make them? Perhaps, but only in the same way that he made murder and rape and arson and syphilis and slums and drunkenness. Perish the thought! It was not God who made the defectives. *We* made them, or our forefathers did. God kills them off, for that is Nature's stern way; we make them by disregarding the laws of heredity, by preserving the weak and imbecile, and by making it easy for defectives to reproduce their kind. If our people once learn that inheritance works by laws as definite and exact as those of chemistry or mechanics, this particular superstition will cease to be an enemy. Not yet, to be sure, do we know all the laws of inheritance, but we probably know enough to reduce our defective population by half within a generation or two. We could do it without appreciable pain or inconvenience to any one, if only ignorance and superstition were out of the way.

Another insidious superstition prevails among the less intelligent classes who believe that contraceptive methods are wicked. As long as millions of people believe that they will go to hell if they use such methods, how are we to save our Republic? The answer seems to be "through selfishness," for a bad quality may sometimes unintentionally be an ally of a good cause, just as a good quality, like the spirit of charity, is sometimes an enemy. Selfishness is a close companion of superstition. If the people who believe that birth control is wicked could know how easy and safe it is, they would take advantage of it for selfish reasons. Millions are like the poor woman who said to a settlement worker: "We can't never get ahead; we have too many children. Sure, it's the baby coming every year that's the trouble." If such people really understood birth control, no superstitious fears or religious admoni-

tions would prevent them from using it as freely as do the Builders. But unfortunately the Builders, being relatively free from superstition, carefully control and reduce the number of their children, while the most ignorant and superstitious parts of the community believe they are doing God's will in having children. We shall return to this subject later in connection with the Roman Catholic Church.

Birth control, like charity and religion, has been a two-edged sword which has hacked the Builders terribly. This is no new thing, as many have supposed. Birth control in one form or another has existed from time immemorial among people in every stage of culture from densest savagery to the high culture of ancient Greece and Rome. The new thing is mainly that after three or four centuries of almost unlimited growth of population by reason of vast new lands and marvelous discoveries in mechanics, chemistry and biology, the peoples of European origin, and especially our own people here in the United States are begininng to feel the acute need of birth control. The injury done by birth control lies largely in the familiar fact that the people who ought to have large families fear to have them because of economic difficulties, or do not want them for other reasons which we shall soon discuss. Because they are intelligent and resourceful they find out all about birth control, regardless of laws against the dissemination of information. The kind of people who ought to have the smallest families, on the contrary, are too dull, stupid, and poor, and too lacking in initiative and self-control, either to find out about birth control or practice it. Thus birth control depletes the fine families, but has little effect as yet on the poorer. It may be one of the best tools in creating a better world, but it is terribly sharp. In the hands of uninformed and selfish people it may be a mortal enemy of progress—the arch enemy in fact.

We might go on like this indefinitely, but space forbids. We can merely catalogue a few more of the ways in which modern

social developments react unfavorably upon biological inheritance. Some of these developments are socially favorable and some unfavorable, but all illustrate the same general biological tendency. Is it eugenically wise, for example, that women should labor in the fields? That our children should receive free transportation to school? That our wives should use washing machines, vacuum sweepers, and electric sewing machines, and that all of us should use automobiles, street cars, steam heat, apartment houses, janitor service, telephones, and a hundred other devices that lessen our physical activity and increase our nervous tension? Automobiles may promote health by taking frail people out into the open air, or by taking healthy children on picnics, but innumerable people would undoubtedly enjoy far better health if they had to walk two or three miles each day instead of being luxuriously carried in motor cars.

Have you never told yourself that you simply must walk to the office, or do something to set your blood stirring? And then has your good wife asked you to bring home some dry goods, or have you stopped too long to joke with the children, or have you decided to take the car and come home early? Somehow or other, most of us generally find a reason for riding in our automobiles. Our digestion suffers accordingly, we have headaches, we become nervous. Then we summon all our moral courage and make ourselves walk a few days. Behold we are young again, with good digestions, good heads, and good tempers. You may talk all you like about getting the air in an automobile, but we know that we ourselves and perhaps 10,000,000 other men and women in the United States would have better health, better tempers, and perhaps more children, if they had to walk instead of ride.

Of course we are going to keep our automobiles. That may force us to become golf fiends for the sake of exercise, although we should really much prefer to go on a hike with our children. And those children! Alas, they always want to go in

the car and not on foot. This very minute, as one of us writes these words, he pauses to send his small son out of doors to play in the fresh summer air. That boy has so many books, toys, automobile rides and other adjuncts of civilization that we doubt whether he gets half or even a quarter as much active exercise out of doors as did his barbarous ancestors 2,000 years ago. If he lived in a one-room cabin and had to help the family get a living, it might be far better for his health, but unfortunately he has social advantages.

Take almost any phase of our modern life and contrast it with the similar phase in a simpler state of existence. You will find that in general the tendency is to diminish the amount of physical exercise and hence the active, rugged strength of the whole population. But the diminution is by no means the same in all classes. It is very slight among the lowest classes, and greater and greater as one goes higher, until one reaches a class high enough and wise enough to make physical exercise a religious duty. Moreover, the diminution in exercise as we rise in civilization and in the social scale, is far greater among women than among men. Do not your acquaintances include several stout ladies, not yet middle-aged, who are approaching the point where it tires them to wash a handkerchief, and who want the car if they have to go a quarter of a mile?

It needs no demonstration to show that such conditions, even in a far less extreme form, are one of the reasons why our women of the upper classes do not and often cannot have more than one or two children. It may not be socially wise for women to work in the fields, but it certainly must be very convenient for a woman to be able to give birth to her baby one day and be up and about, getting the meals, the next. Personally we confess that we wonder whether it would be a great step in social progress if we ourselves were obliged to dig ditches, hoe corn, chop wood, or shovel snow two hours a day, summer and winter alike, while our wives were obliged to

pick peas, gather blueberries, tend the flower garden, do a little washing and walk a quarter of a mile to the spring for water four times a day. We do not quite dare say this, for we are not sure whether we should show ourselves hopelessly old fogy, or hopelessly ahead of our times. But we know what good temper prevails in our homes the day after the whole family has gotten itself comfortably and happily tired by climbing the mountain or bringing in the hay. If we were not so civilized, we might have that kind of good temper all the time. We have made enormous gains in our control over nature, but we have thereby suffered terrible losses in physique, and in the birth rate of the more competent classes.

THE modern woman's movement and the theater resemble marriage and religion in greatly enriching our social system at the expense of appalling biological loss. Was there ever a more hopeless campaign than that of feminism? The aim is noble—to emancipate women, give them opportunities absolutely equal to those of men, and forever free them from the sense of unfairness which now disturbs so many of them. The benefit to mankind, if this could be accomplished, can scarcely be measured. But could the mind of man devise a system much more futile than that by which the feminists are actually trying to accomplish it?

What do women really want? We do not mean the feminists, but the finest kind of women, no matter whether they call themselves feminists or not. As we understand it, the vast majority of intelligent, well-balanced, high-souled women do not really want legal or social privileges beyond those which they now enjoy. They prefer to be married and have children. They would rather let their husbands have the careers, earn the money, and drive the car whenever possible. They prefer to devote themselves to running their homes, bringing up the children, enjoying the society of their friends, acquiring knowledge and culture, and encouraging all sorts of movements for the public benefit. Even the most gifted of such women count it a privilege to devote the best years of their lives to their children. The pains of child-birth seem to them trivial compared with the surpassing joy of seeing the baby take its first steps, hearing its first words, or looking down on it as it smiles and laughs in its crib. So great is the

pleasure derived from their children that many of them wish that there was always a baby in the house.

Nevertheless, the great majority of thoughtful women are conscious of an incessant though subdued discontent, not active enough to spoil the joy of life, but sufficient to make them feel that their sex has a real grievance against our man-made society. That feeling, rather than the desire for careers like those of men, is what makes feminism one of the greatest problems of all time. It may have existed from time immemorial, but only recently has it become vocal and active. It has come into prominence partly perhaps because the advance of human knowledge has brought to men a far greater freedom than to women. The railway, steam engine, gasoline motor, telegraph, telephone and a host of other inventions have somehow or other helped men's work more than women's. The business man is relieved of the drudgery of driving the pen by an efficient stenographer; he is relieved of the necessity of keeping track of the ups and downs in business outside his own concern by all sorts of bureaus, both public and private. He can take time for his Rotary Club or his golf, and he has almost innumerable conveniences and aids, both mechanical and human, at every stage of his work.

Not so with the mother. Aside from exceptional cases her days are as full, her hours as irregular, and her housekeeping appliances almost as simple as in the days of her grandmother or even her remote ancestress centuries ago. In fact her position is often much harder than that of her ancestors. In the first place, modern medical knowledge obliges her to take all sorts of new precautions. In the second place, her difficulties are greatly exaggerated by the fact that the progress of the kinds of work in which men are chiefly engaged has created a great demand for women and girls as assistants in commerce, industry, and the professions. Where formerly it was easy for the woman in moderate circumstances to employ efficient, yet inexpensive helpers while her children were little, it is now

extremely difficult, and the type of helpers is far lower than of old. The net result is that while the work of men has become easier and more efficiently organized, that of women, through no fault of their own, has become harder and less efficiently organized.

Such conditions naturally cause a growing number of women to resent a system which not merely deprives them of the opportunity of self-expression, but stunts their intellectual and social development for years if they have children. The thing that hurts them is that, because they have no time to read, think, and improve their minds, they tend to grow away from their husbands and children, and to become less valuable as companions, teachers, and inspirers. If we read the signs aright, the great boon which woman asks is the privilege of having children and yet of being able to maintain a reasonable mental and social activity so that she may grow with the children. She challenges the man-made world, not so much for careers, equal rights, or equal pay, but for a reorganization of society so that motherhood shall be as sacred and as well protected as bank deposits.

So far as rights and opportunities for a career are concerned there is little that women now need in addition to what they have. But they are almost hopelessly handicapped *in the practice of their own greatest profession*. That is where the trouble lies; that is what the feminists ought to correct. Why have the feminists done so little toward creating a system where household service is as efficient as that of factories? Why should most women still find it vastly more difficult to get an efficient servant than it is for their husbands to get a good factory girl? Why are nurse girls so much harder to find than stenographers, and so much more unsatisfactory? Why has not the genius of women, not merely created, but established an eight-hour system of household work as effective as that which men have evolved out of the old system of grinding toil from dawn till eve or later? Why are me-

chanical household appliances still so limited in number and so expensive? Is it not absurd that so simple a contrivance as a washing or ironing machine should cost a third as much as the far larger and more complex machine known as an automobile? If household appliances had been developed and marketed with anything like the ingenuity that has been applied to the automobile and to other factory machinery within the last generation or two, housework might to-day be so easy that even the woman in moderate circumstances would have leisure.

We might go on with all sorts of questions. Are not day nurseries a wonderful help to the mother? Then why are they provided only for the very poor—or the very rich? If it is a good plan to provide innumerable scholarships for bright boys and girls in college after they are old enough to take care of themselves, might it not be still more worth while to provide scholarships for bright children while they are so small that they are a strain on their mothers? The scholarships might not pay for schooling, but they would pay for washing the diapers and for making the mother a fresh, attractive, stimulating companion to her children instead of a hurried, nervous, quick-spoken drudge. If a mother's first child shows evidence of unusually good physique, intellect, and temperament, why should there not be great endowments whose express purpose would be to make it possible for such a mother to have other fine children without wearing herself out with household drudgery? And why should the education of our boys and girls still put only the mildest and most ineffective emphasis upon the great problems of parenthood, child training, and the like? Are not those things vastly more important than almost any others?

As we catalogue all these things which ought to be the main items in an effective feminist program, we confess to a feeling of astonishment, chagrin, disappointment and even impatience that so little has yet been done to remove the deepest causes

of woman's discontent. We do not pretend to know how to solve these problems, but we cannot avoid the impression that the feminists have side-stepped, as it were. They have sought to solve the problem of womankind by foregoing marriage, by limiting the number of their children, by suppressing the most deep-seated and beautiful of human passions—the passion for children—and by putting in its place the cold satisfaction of a career. The career is well and good in its way, but even the most exuberant satisfaction that comes from unexpected success cannot compare in depth and permanence with the joy that comes through having children of one's own.

The feminists, then, as we see it, have merely touched the fringes of their problem. They have done this by a method which not only guarantees failure, but bids fair to wreck civilization. If they want success in their present attempts, and still more in the far greater task of enabling the high-grade woman of the future to be a mother without an unfair sacrifice, they should do one thing above all others. They should raise leaders. Are they doing it? Only in the same way that the Queen's gardeners raised flowers. They are, indeed, culling the finest young women from all over the land and indoctrinating them with ideas of self-expression. But they almost rival the gardeners in the diligence with which they prevent the growth of good seed. If the present feminists were self-sacrificing enough to do the thing of all others that would ensure the future success of their cause, the younger ones would find husbands of their own type, and would have five to ten children apiece. The older ones, or those who through misfortune cannot have children, or cannot find husbands, would devote all their time and money to assisting the mothers who have many children, or to caring for the brightest and best of the motherless children.

Say what you will about the possibilities of good in the poorest, humblest human material, the fact remains that the leader derived from the less competent classes of society is the rare

exception. Inheritance, opportunity, or training may be responsible for this condition. That makes no difference for the present. The obvious and undeniable fact is that in the final count the leaders of to-day are the only ones who can be relied on to produce a steady and abundant supply of future leaders. Even among the leaders themselves only the women of a special type can be relied on to bear and train daughters who will have the ability, temperament, and education to be Builders in a great cause like feminism.

What are the feminists themselves actually doing in the way of producing new leaders? *Who's Who in America* for 1926-1927 contains 1,848 useable records of women who have in one way or another distinguished themselves. Nearly 700 are writers, nearly 300 educators, about 160 artists, 113 musicians; social work and philanthropy with 84 claim more than the stage with 69, while science, lecturing and the library each give occupation to a little over 50. About 130 claim no special occupation but are mainly active in social and philanthropic lines. Of the remaining 200 or less, only 45 can by any stretch of the imagination be called business women, but 28 of these are engaged in publishing and printing and are doing literary and editorial work rather than executive business. Thirty-seven others are journalists, so that the art of writing, in one way or another, claims 40 per cent of all the feminine leaders against only 10 per cent of the men, even though we include publishers and printers as well as authors and journalists. Of course the scientists and most of the other people in *Who's Who* do a great deal of writing, but we are not including them. It seems strange that medicine, which would appear to be an occupation especially adapted to women, has only one-twentieth as many distinguished women as literature and journalism, whereas among men the number of distinguished physicians is about the same as that of journalists and authors.

But the occupations of the women do not now concern us so much as does the fact that most of the 1,848 whom we are

discussing are supporters of feminism to at least a mild degree. A finer, more noble, and more lovable set of women could scarcely be selected. Such women are preëminently fitted to be mothers of the women who will eventually emancipate all womankind. But how many daughters have they?

Practically all the women in *Who's Who,* aside from some of the actresses, are beyond the age when women ordinarily marry, for most people cannot distinguish themselves much before they are 40 years of age. The majority of the women, to be sure, do not state their ages, but collateral evidence makes it clear that at least 90 per cent, and perhaps more, must have passed the age of 35, yet in spite of their mature age only 1,011 of these 1,848 women report themselves as married. Only 175, to be sure, say in so many words that they are unmarried, but presumably most of the 662 who say nothing about it are actually unmarried. Even if one in ten of them is married, or will be married in the future, which is scarcely probable, that would make only 58 per cent who are ever married. Among those who are married only 490 report children. This does not mean that the remaining 600 married women are childless. The 1926-7 edition of *Who's Who* is the first to contain the names of children, and some mothers may have overlooked the request for their children's names. Nevertheless, since women are more likely than men to be responsive to anything that concerns their children, it seems highly probable that the majority of married women who report no children actually have none. But let us be conservative and say that half have children and half have none, and that those who have children have the same average number as do the women who actually send in reports. All this means that about 58 per cent of the women in *Who's Who* are married, while 73 per cent of those who are married have had children. This last figure is almost the same as that for the wives of Harvard graduates. It may be too high, but we prefer to err on that side rather than the other.

The average number of children for each of the 490 women

who report their children in *Who's Who* is 2.33, but this falls to 2.13 among the mothers of the latest generation whose families are complete; that is, among those where the age of the mother or the date of marriage make us certain that the mother's period of possible child-bearing has been completed since 1915. We may reasonably suppose, however, that such mothers fail to report perhaps one child in ten because of death long ago in infancy. That would make the average completed family among women of the generation aged 45 to 60 years amount to approximately 2.4 children. At that rate 1,000 *Who's Who* women of the present mature generation counting both married and unmarried, have only 1,016 children. Since girls are less numerous than boys, and since we must allow for the death of about 15 per cent of the children before the age of marriage, the number of daughters who will live long enough to replace the older generation is only 432 for every 1,000 women who are now in *Who's Who*. The number of mature granddaughters will be only 187, the great-grand-daughters 81, the next generation 35, then 15, and finally six at the end of about two centuries.

Where, then, are the leaders for the feminist movement of the future? It is all very well to talk about combining careers with homes and children, but the women who ought to be doing it, if any one can, are not succeeding in the least. Only in the rarest cases does a highly gifted and very vigorous woman bring up a family of three or more children and like-wise have a career. Even among the 130 feminine leaders who ascribe to themselves no occupation outside the home, the married women who report children claim an average of only two and a half children apiece, but that means only one and a half for the whole 130 including the unmarried and childless. Even if the daughters of this group should marry as freely as the home-staying portion of their mother's genera-tion (80 per cent) and if the married ones should be as likely to have children (77 per cent), 1,000 *Who's Who* mothers of

the kind who have no set occupation and devote themselves largely to their families would have only about 630 daughters who grow up, are married, and have children; and the number of granddaughters of the same kind would be only 390. Compare the probable descendants of the women in *Who's Who* with those of the Mormon men in that book, as shown in Figure 2.

Where, then, we ask again, are the feminist leaders of the future to come from? Who will give birth to them? Who will train them in childhood? Not the present feminine leaders of America, and still less the most feministic of those leaders. Do not careers for women, as now carried out, appear to be the most suicidal of policies for the advancement of woman? Is there not grave danger that women will fall steadily backward into the ancient condition of servitude, if they continue the present system of cutting off the supply of leaders capable of bringing them into the promised land of equality? That is where the present tendencies will land us unless they are checked. Almost no great group of women has so few children as have the leaders, and among the leaders those with strong feminist tendencies appear to have even fewer children than the rest. Feminism appears to be like monogamy, religion, philanthropy, and many other modern institutions—admirable socially, but self-destructive biologically.

The actress and the militant feminist are as far apart as the poles in most respects, but they are alike so far as children are concerned. Physical beauty is one of the most desirable qualities in women, and is not to be despised in men. Ordinarily it is at least a sign of good health, and of a good physical inheritance. When joined with the elusive thing called charm it creates a magnetic personality which takes us captive in spite of ourselves. It makes us ready to do freely for one person what we could scarcely be persuaded to do for another. To be successful in her profession, an actress must
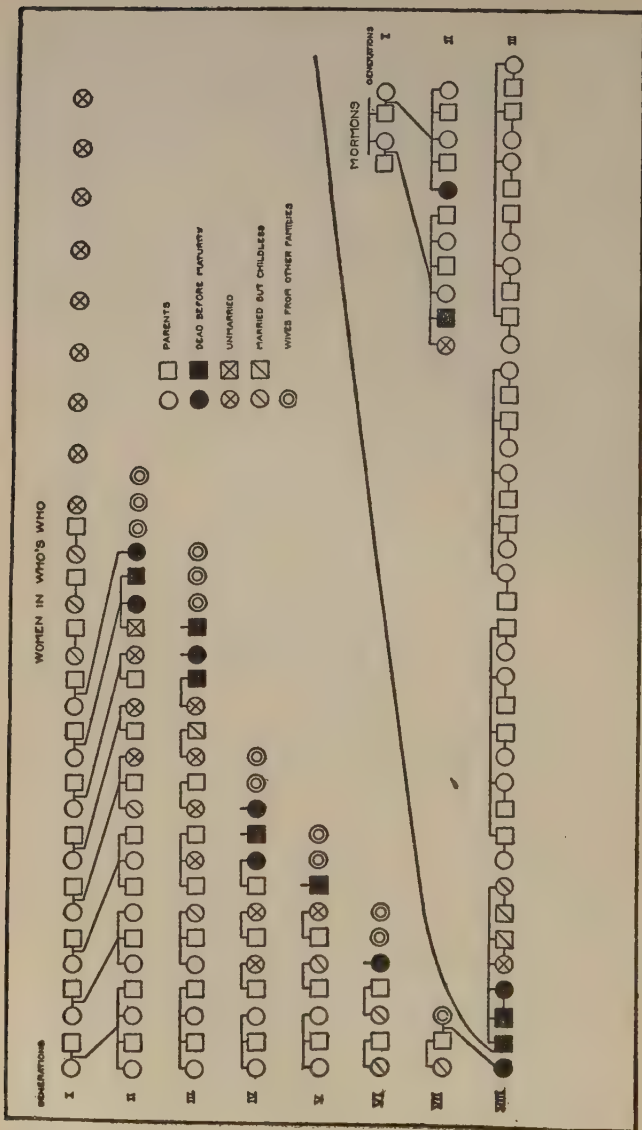
FIGURE 2. FEMINISTS VS. MORMONS

WITH 55 PER CENT OF THE WOMEN IN "WHO'S WHO" MARRYING, AND THAT PERCENTAGE AVERAGING 2½ CHIL-
DREN PER FAMILY, THERE IS COMPLETE EXTINCTION OF THESE FAMILIES IN EIGHT GENERATIONS. CONTRAST
THIS CONDITION WITH THE DIAGRAM FOR THE MORMONS.

be preëminently blessed with physical beauty and charm of manner. The girls in the Ziegfeld Follies rank especially high in this respect. How many of them are really of the Builder type no one can tell, but certainly beauty and charm are qualities which ought to be distributed as widely as possible. If joined to intellect and the right kind of temperament in other respects, they make a powerful combination. That they are thus joined among the leading actresses can scarcely be doubted. Our own eyes and ears provide sufficient evidence as to the beauty and charm of the actresses. Messrs. Wechsler and Carter vouch for the intellectual qualities. In 1926 they gave intelligence tests to 50 actresses and chorus girls in the New York theaters of Messrs. Shubert and Ziegfeld, where the most beautiful girls are supposed to be gathered. The scores made by the girls were extraordinarily high, averaging 128 as compared with 127 made by college men in the United States Army test and 130 made by college women in similar tests. One girl made a record of 184, a record which is attained by only three out of every 1,000 persons; four others ranked from 159 to 168. Of course, these were picked girls, but they show that actresses and chorus girls contain a high percentage who are not only physically beautiful and socially charming, but highly competent intellectually.

In an article in *Liberty* Mr. Walter Davenport tells what has become of 800 Follies girls, basing his statements mainly on facts supplied by Mr. Buck, the impresario of the Ziegfeld organization. Here are the somewhat facetious and not very accurate statistics which have thus been worked out:

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Number of girls ...........................800
Married (at least once) .....................500
Divorced (at least once) ....................400
Still on stage ..............................400
Missing (unaccounted for) ..................200
In the movies ..............................100
Retired (at least once) ......................70
Dead .......................................30
Known to have children .....................25
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The point that interests us here is the children. Concerning this Mr. Davenport says in a letter: "On one point I think you will make no mistake. Mr. Buck appeared to be concentrating his thoughts on the question of Follies girls' children. He seems sure that twenty-five is a liberal estimate. The life, he said, is not one warranted to imbue women with a sense of responsibility to the future—that is, to posterity. I take it that they may be counted as among Mrs. Margaret Sanger's most interested pupils."

Of course some of the girls who are unaccounted for may have children, and some of those who are still on the stage may have children in the future. It seems quite clear, however, that 100 or so probably represents the outside limit for the children of the 800 pretty girls of the Follies. Only three of the 69 actresses in *Who's Who* report children—one apiece —although 48 report themselves as married. Doubtless there are other children, for actresses do not like to report their children since they are not a professional asset and may be the reverse. But that is just the point; children are not regarded as an asset by feminists as well as by actresses. It is easy enough to be married and yet not have children, so why have them? Even the 113 feminine musicians in *Who's Who* report only 41 children for 68 married women.

Compare all this with what would happen to the Follies girls and other actresses under a sane and normal condition of society. Practically every one of them would be married, and married young, too, because they are unusually attractive. Being married young and being physically almost perfect, as is proved by their beauty and their ability to dance, the great majority would have relatively large families. Instead of having perhaps 50 daughters all told, as at present, they might easily have 1,500 who would survive to maturity.

But the Follies girls are only a part of the actresses in America. The census gives the total number as 13,000 in 1920. Doubtless the average actress is more likely to have

children than is the girl in the Follies, but certainly the average number of children is extremely small. Compare this small number with the number which they might have had in the old and barbarous days when their beauty and charm would have made them the wives of polygamous kings and nobles. Put it any way you like, the fact remains that because we want to be amused, and because our theatrical managers want to make money, and because our civilization is what it is, in each generation this country is deprived of some tens of thousands of children who might otherwise be born to women of unusual beauty and charm. Under normal conditions many of those women would tend to marry men of unusual ability because such men as a rule get the most attractive wives. Therefore, many of their children would combine the charm and beauty of the mother with the ability of the father. Other motives, such as love of art, a sincere desire for a career, and the love of giving pleasure, combine with the selfishness of the rest of us in preventing the birth of such children. Thus, to-day, perhaps more rapidly than ever before, our women are deteriorating. If the present tendencies continue this is likely to be a sad world two or three centuries hence when both brains and beauty have been more fully weeded out among the women.

Here we must end our study of the way in which social progress has tended to lower the biological inheritance of the human race. This is especially obvious in the change from polygamy to monogamy, but is equally true of religion, modern industrialism, modern medicine, feminism, and the theater, not to mention scores of other lines of progress. In every one of these cases the social gain is undeniably great and should be preserved at all hazards. But in every one the net effect is to reduce the birth rate among the most valuable sections of the population, while the rate remains almost unchanged among the lower classes. Only in a few important cases, such as factory work for women, is it the lower classes

whose birth rate is reduced. Even in that case the reduction of the rate among laboring women is far smaller than among the corresponding women of higher grade who become school teachers, business women or professional women. Thus the almost universal tendency of civilization is to lower the birth rate among the more competent and valuable parts of the population at a far more rapid rate than among the less competent. Up to a certain point the lowered birth rates are in themselves no harm and may be one of the greatest boons of civilization. The harm comes only when the birth rate falls so low that a desirable type begins to decline at a faster rate than the less desirable types. The harm to us to-day is due to the fact that the rate of lowering is rapid among the Builders, slow among the Destroyers.

Parallel with the lowering of the birth rate, in our times at least, runs the lowering of the death rate. This in itself is doubtless another great boon, but it, too, becomes dangerous because the degree of lowering is least among the Builders, greatest among the Destroyers. In the polygamous stage of society, to which we have so often referred, the birth rate among the upper classes was very high, and the death rate was also high. But the birth rate so far exceeded the death rate that the survival rate was high. Among the lower classes in those old days the birth rate was not so high as among the upper classes, and the death rate was higher. Thus the survival rate was lower than among the upper classes. In such a condition lies biological safety. In our own day the birth rate among the upper classes is extremely low, the death rate is also very low, but it has not fallen in such great proportions as the birth rate. The result is that the survival rate is less than nothing—the upper classes are diminishing from generation to generation. Among the lower classes, on the contrary, the birth rate is probably not much less than it has been for thousands of years, while the death rate has been greatly lowered. The result is a survival rate which is per-

haps as great as has ever been known in all history among people who are of little or no value in building up civilization. In a country like China, for example, such studies as have recently been made by physicians suggest that the birth rate is far lower than has commonly been supposed. In most countries the people who have the highest birth rates are generally those who go to new and sparsely settled regions, and those who in some other way rise suddenly and without much effort from the pressure of poverty to relative prosperity.

There has always been some danger from the failing fertility of the upper classes, but in the past the high death rate of the lower classes has at least mitigated the trouble. During the last few generations the rapid development of new knowledge and of new social customs has at the same time diminished the births among the upper classes to an almost unparalleled degree, and removed from the lower classes a large part of the old regulating force in the form of a high death rate. That is the fundamental cause of the acute stage which is now upon us, but our problem is as old as humanity. Social gain, eugenic loss. That has been the prevailing rule. Can we change it to *social gain, eugenic gain?*

CHAPTER XII

THE PEOPLE OF "WHO'S WHO"

THE next step in our study of the tendencies considered in this book is to test the whole matter of birth rates and social values more exactly than has yet been done. We need precise data as to the families of the Builders, and as to their value to society. Some such data have already been presented in regard to college graduates and persons of different occupations in the United States as a whole, but let us study the matter in greater detail. We will examine two sets of people; first, the leaders mentioned in *Who's Who;* second, Yale and Harvard graduates for whom good records are available both in college and in life. These groups disclose certain favorable conditions which at first sight seem flatly contradictory to the results set forth in previous pages. There is no real contradiction, however;—merely two highly important tendencies—one ominous and obvious, the other encouraging, but hitherto unrealized.

Who's Who in America for 1926-1927 contains brief sketches of 26,915 prominent Americans. It is easy to criticize the book; it omits certain persons whom we know to be real leaders, and includes others of much lower caliber. Nevertheless, the book includes biographies of most of the well-known persons in the United States. It does not attempt to include the *best* people except as they are also well known. The aim is to give information concerning people about whom questions may arise. Thus, the president of a manufacturing company may be very influential locally, and of the highest character. In both respects he may excel his neighbor who has written a

good book. Nevertheless, the manufacturer is rarely the subject of inquiry or discussion outside his own town and immediate business associates, whereas people in hundreds of places may inquire concerning the author. Therefore, the author is included, but not the manufacturer unless he is unusually conspicuous.

Some light on the significance of *Who's Who* may be obtained by checking the book in other ways. As will be explained more fully in another chapter, the 700 men who graduated from Yale College in 1893, 1896, and 1898 have been graded by their classmates according to their success since leaving college. Character, achievements, and position are all taken into account. The overwhelming majority of the most successful 10 per cent of Yale graduates would probably deserve to be in *Who's Who* if the basis of that volume were value to society rather than the degree to which people are known and talked about. But how many actually appear there? Out of 76 men who belong to the three Yale classes and whose names are included in *Who's Who*, 30 fall in the highest 10 per cent as ranked by their classmates; 19 in the second 10 per cent; 14 in the third; four in the fourth; three each in the fifth and sixth; none in the seventh and eighth; two in the ninth; and one in the tenth. Of the six who fall in the less successful half of the class four are lawyers, whereas among the entire 76 only 20 are lawyers, which may or may not be significant. The man who stands lowest in the esteem of his classmates seems to be included in *Who's Who* because of his father's wealth and position; the two who stand next apparently owe their inclusion to politics; the other three who fall in the lower half of their classes make a good showing in the book, but perhaps possess undesirable personal qualities which lower their standing among their classmates.

On the whole, if the opinion of classmates is a correct guide, a *Who's Who* based on real merit would omit about one-tenth of those now in the book and add another 25,000 or 30,000

not now included. Yet on the whole the book contains a thoroughly representative list of the kind of men and women who are contributing most to the upbuilding of America. They are not primarily persons of wealth. "Not a single sketch in *Who's Who in America* has been paid for—and none can be paid for," as the publisher puts it. Look over the list of persons in your locality as given at the beginning of the volume; see what substantial, high-grade Builders they generally are.

There is a widely spread idea that our leaders do not marry. It is said again and again that the greater a person's ability, the less likely he is to marry. Is this supported by the facts? Not at all. In some states, such as Nevada, North Dakota and Wyoming, every one of the *Who's Who* men is married. Even in New York state and the District of Columbia the proportion falls only to 85 per cent. In Delaware, to be sure, the percentage is 72, while a figure of only 64 for the Americans living in France bears out the common belief that Paris is beloved of unmarried men. But these low figures pertain to only a few small groups. Among the first 8,750 men in *Who's Who* about 89 per cent are married, and the same percentage undoubtedly holds throughout the book. Of the remaining 11 per cent, less than half are reported as unmarried, while for the rest there is no record. Among 10 of this latter kind of whom we have personal knowledge, one is married and nine unmarried. Moreover, some of the unmarried are under 40 years of age and may marry in the future. Hence we conclude that by the time they reach the age of 55 years at least 91 per cent of the men in *Who's Who* will be married.

How does this compare with the percentage for the population as a whole? Among the white men of native parentage from 45 to 64 years of age almost 81 per cent are reported by the census as married, eight per cent as widowed, and one per cent as divorced. Most of the leaders who are divorced and some of those who are widowers do not report themselves

as married in *Who's Who*. Therefore, the percentage of marriage seems to be slightly greater among the leaders than among the rank and file of the white men of native parentage. But these native whites in turn are more likely to be married than are the foreign-born whites or those of mixed parentage. Only the Negroes rival the native whites in this respect, but even they are scarcely as much married as the leaders. So much for one good old idea. The leading men of America are a trifle more likely to be married than almost any other great group of our population.

"That may be conclusive," says the objector, "but anyhow it is well known that the leaders are less likely to be married now than a few generations ago." Such was our own belief until we compared leaders of different ages.

Here are the percentages who report themselves as married:

Date of Birth	Number of Men	Percentage Who Report Themselves as Married
Before 1850	411	87
1850–59	1,399	89
1860–69	2,556	91
1870–79	2,693	90½
1880–89	1,180	88½

This does not look much as if the rate of marriage were declining. Among the older men some of the widowers may have failed to report themselves as married, which perhaps explains why their percentage falls below 91. Some of the younger ones will doubtless be married in the future, thus bringing their percentage up to 91 or more. The percentage of leaders who are married apparently remains fairly constant at about 91, but if there is any change as time goes on it is in the direction of more rather than fewer marriages. The popular idea is certainly wrong.

How about the age at marriage? Is it not increasing? The effect of our lengthening period of education in deferring marriage has been dinned into our ears until we are tired. Does

any such effect show itself among the leaders? Judge for yourself:

Date of Birth		Number of Men	Average Age at Marriage
Before 1840	....	34	28.6
1840–49	....	321	28.7
1850–59	....	1,231	28.5
1860–69	....	2,693	29.2
1870–79	....	2,785	29.2

This looks as if the age at marriage were really increasing so that leaders born since 1860 marry half a year later than those born earlier. But even this slight difference may be deceptive. The older men in *Who's Who* are on the whole more vigorous and successful than the younger ones, for the less vigorous and less successful of the older generation have been eliminated by death or by retirement into inactivity. When we study Yale graduates in a later chapter we shall find that the more successful tend to marry earlier than the others. If we could eliminate from the younger men all those who will disappear from *Who's Who* before reaching the average age of the men born before 1860, the two groups would show little or no difference in their average age at marriage. On the whole, then, there is no clear evidence that the leaders of America marry any later now than in the past. If they do marry later, the change amounts to less than half a year in a generation. Increasing age at marriage cannot be an appreciable cause of the recent decline in the size of families, at least among the leaders. So much, then, for another widely held idea.

But surely the long period now required for education is a reason for small families. At least, everybody says so. Let us see. In our study of college women we have already found reason to doubt this well-established dictum. The mothers of 1,700 Yale graduates in the classes of 1922 to 1926 throw still more doubt on it. In 102 cases where both father and mother are college graduates, the average number of children

is reported as 2.77; in 805 cases where neither parent is a college graduate the number is actually less, 2.64. An average of at least four extra years of education for each parent has not caused the number of children among the college people to be any less than among those who did not go to college.

The men in *Who's Who* make the matter still clearer. Here is a table showing the relation between education on the one hand and marriage and children on the other. The different kinds of education are arranged according to the average number of children per person as given in Column F. This means the number of children per leader, counting not only those who are married and have children, but those who are unmarried and those who have no children though married.

EDUCATION IN RELATION TO MARRIAGE AND CHILDREN
ALL PERSONS IN "WHO'S WHO" *

Kind of Education	A Number of Persons	B Per Cent Reported as Married	C Estimated Per Cent of Married Having Children	D Percentage of Total Having Children	E Children Reported Per Father or Mother	F Estimated Children Per Person Assuming that 10 Per Cent of Children Are Not Reported	G Estimated Adult Great-grandchildren Per 1,000 Persons of Present Generation
Men							
College and professional	8,138	91	80	73	3.0	2.4	1,060
College and Ph.D.	4,198	93	85	79	2.7	2.3	940
College	5,403	91	83	75	2.8	2.3	940
Normal, business, trade, secretarial	368	96	75	72	2.8	2.3	895*
High school	1,661	90	80	72	2.7	2.1	730
Elementary schools and home	1,550	88	76	67	2.8	2.1	700
Professional school only	3,459	84	76	64	2.7	1.9	625
Women							
Normal, business, trade, secretarial	62	71	81	58	2.8	1.8	455
High school	264	76	76	58	2.2	1.4	195
Elementary school and home	250	75	70	53	2.5	1.3	160
College	492	55	76	42	2.4	1.1	110
Professional school only	311	56	70	39	2.2	0.9	65
College and Ph.D.	166	33	68	22	3.1	0.8	35
College and professional	196	45	75	34	2.0	0.7	28

* For details as to method of preparing this table and others, see Notes on Table 5 in the Appendix.

The men's part of this table is astonishing because of the order in which the types of education appear when arranged according to the number of children (Column F). The

women's part is astonishing because of the small percentage
of the total who have any children (Column D) and the ex-
tremely small number of probable descendants (Column G).
College men who study in professional schools or take the de-
gree of Doctor of Philosophy usually spend three or four
more years in preparation for their life work than do those
who merely go to college. Yet their families are at least as
large as those of the men who stop with a college education.
College men in turn need about two years more than normal
school men to complete their education, but they have slightly
more children. So it goes down the line. Normal school men
require two years more than high school graduates, but have
10 per cent more children. High school graduates similarly
surpass those who have had merely an elementary education.
Except for the professional schools at the bottom of the list,
the types of education are arranged exactly in the order of the
length of the time that they require. The longer the period
of education, the greater the number of descendants. Is not
this astounding? Yet our groups are so large that there is
practically no possibility of error.

Does this mean that if you were to count the children in the
families of your acquaintances you would find more among
those who are college graduates than among those of similar
social or professional standing who are not college graduates?
No, not to any marked degree, for in the men's part of Col-
umn E the number of children reported per father (about 2.8)
is practically the same in all groups except the first, compris-
ing men who have been to professional schools after going to
college. The high number there (3.0) is due partly to the in-
clusion of a large percentage of ministers. In order to dis-
cover the real truth of the matter you would have to go far-
ther and count the unmarried people, and those who are mar-
ried, but have no children. Then you would find that the
number of children in Column F and the number of descend-
ants in Column G depend mainly upon the percentage who

are married (Column B), and upon the percentage of married people who have children (Column C). Note how the percentages tend to decline as one runs down these columns. The result is that while 79 per cent of all the doctors of philosophy among our leaders are married and have children, only 67 per cent of the leaders with merely an elementary education do likewise. The failure to marry or to have children when married is fully as important as the small size of families in causing the number of descendants to decline in practically all the groups in our table.

One curious feature of the table is that the men who go to professional schools without attending college have fewer descendants than have the men of any other educational group in *Who's Who*. This probably arises from the fact that a leader without a college education is more or less out of his normal position in society. The majority of such men may rightly be called self-made. They generally come from families where there is less culture and intellectual stimulus than in the boyhood homes of most of the college graduates. During their early years they often work with their hands and get their education piecemeal. In many cases they never have an opportunity to acquire culture until they are too old to assimilate it fully. In other cases the desire to make money or otherwise "get ahead" as fast as possible leads them to think that a college education and the culture which it brings are a waste of time. In the end such men are likely to regret their mistake and join those who really could not get a college education in wishing that they had had one. In most cases, no matter what the reason for the deficiencies of his education, the poorly educated leader feels that he must make a special effort to conform to the social standards set by men of similar achievements who have been to college and who generally come from homes of greater culture and refinement. This effort is a sign of maladjustment to society.

Look at the matter a little more in detail. In spite of their

abbreviated education, many of the leaders who do not go to college are late in getting established in their life work. In fact one of their commonest initial handicaps is that because they are born in homes of relatively low caliber they do not get a fair start until late in life. That is why they take short cuts in education. Moreover, when they do get started, their progress is apt to be retarded by the imperfections of their education. Thus on an average, when the age of marriage is reached, the prospective leader who lacks a college education is generally by no means so well established as is the man whose family has the college habit and who gets through college fairly young, as is common under such circumstances.

This fact, as well as others, hampers the matrimonial plans of the men with the poorer education. At the age when their college-bred colleagues are ready to marry, many of them are not far enough along in their careers to do likewise. If by chance they marry, they are more likely than the others to put off having children because of economic handicaps. Even more important is the fact that self-made men and those who take educational short cuts are generally less attractive than the college-bred men to the kind of women whom their hard-won position has made them want as wives. In many cases they retain little errors of speech and manner, and a large ignorance of how to conduct themselves socially. Such defects, while harmless in themselves, create a barrier between the ambitious young men and the finest, most cultured types of young women. One of the most bitter trials of many a self-made leader is his longing for just the kind of wife who is most likely to be repelled by his lack of good breeding. Thus many factors combine to reduce the number of children among leaders sprung from any save the more cultured levels of society.

Consider what this means as to the future. At the present rates of marriage, birth, and death the leaders of the college-bred type will have approximately enough descendants to re-

place themselves, as appears in Column G. The leaders who lack a college education, on the other hand, will have only 600 or 700 great-grandchildren for every 1,000 persons of the present generation. At any rate that is what would happen if the present tendencies should continue and if the two groups should remain separate. As a matter of fact, the two groups tend to intermarry, and the children of the leaders who lack a college education are likely to have more education and culture than their parents. And of course the children of the leaders intermarry with those of people who have less power of leadership. But what we are saying applies not merely to the persons in *Who's Who* but to the whole great group of several million influential people from which such leaders are mainly derived. These people behave like their leaders in all essential respects.

For this reason the relatively small number of descendants among the less educated and less cultured members of this group takes on a deep significance. It means that people who rise from the lower ranks of society suffer limitations which tend to prevent them from reproducing themselves. The self-made man does not add "new blood" or new germ plasm to the dominant groups to anything like such a degree as is usually supposed. The "effete upper classes" are much more likely to marry and have children than are the sturdy sons of the soil or the keen children of the immigrants who rise to positions of influence. The aristocracy, if we may use the term, is largely recruited from its own members. Doubtless the lower social levels do make great contributions to the upper levels in the long run, but they do so only after a stringent process of selection whereby those who fail to attain certain standards are relentlessly weeded out. That is the meaning of the fact that three-fourths of the leading college graduates have children, but only two-thirds of the leaders with a less complete education.

The relation of women to education is quite different from

that of men. The lower part of the table on page 161 is almost the reverse of the men's part. No group of women, to be sure, has as many children as the men, but that no longer surprises us. The significant fact at present is that the women who have only a little education are much more likely to be married and have families than are those who have a higher education. The college women who have any children at all do indeed have slightly more (2.4 on an average) than do the women who do not go to college (2.3), but many of the college women refrain from marriage. About three-fourths of all the feminine leaders who have attended neither a college nor a professional school are married; somewhat more than half of those who have attended either a college or a professional school but not both, are married; and only about two-fifths of those who have been to college and then supplemented that by further work in a graduate or professional school. Yet strangely enough the feminine Doctors of Philosophy who do marry and have families after their long period of intellectual toil, actually have 3.1 children apiece, more than any other group in our whole table. Such women are clearly the most intellectual, if not the wisest, to be found anywhere. More and more it becomes clear that education and intellectuality do not prevent women from having good-sized families. They merely prevent them from marrying, or cause them to marry too late to have families. That is why education and professional success among women work in just the opposite way from among men so far as the preservation of the race is concerned. No group of college-trained women appears likely to have much over 100 great-grandchildren for every 1,000 of themselves and of the men whom they marry or might marry. Women may some day be able to have careers and bring up enough children to maintain their type in the community, but *they certainly have not yet learned how to do so.*

Although the leaders among the men of America are much more likely to be married and have children than are the

women, they cut a sorry figure as ancestors of future genera-
tions.   Let us use the highest allowable figures and see how
near the men come to having enough children to maintain their
stock among the growing population of America.   We will
assume that 92 per cent are married, 82 per cent of those who
are married have children, and 85 per cent of the children
live to full maturity, while the average number of children per
father is three.   Making correspondingly liberal allowances for
the women, we may say that 60 per cent are married, 75 per
cent of those who are married have children, the number of
children per mother is two and a half, and the proportion who
survive to maturity the same as in the families of the men.

In order to hold their own with the other parts of the popu-
lation, the leaders ought to be reproducing at such a rate that
1,000 persons of the present generation, half men and half
women, will have at least 1,500 and perhaps 1,800 great-
grandchildren.   As a matter of fact, even if we make the lib-
eral allowances described above, the men in *Who's Who* bid
fair to have scarcely 900.   That is not much more than half
enough to make their great-grandchildren as much of a power
in the community as they themselves now are.   Among the
women, even with allowances still more liberal than for the
men, the number of great-grandchildren per 1,000 persons
gives promise of being less than 200.   Not much hope for
the future in that.

But even if the leaders as a whole are a vanishing race, are
they not holding their own in some parts of the country?
When separated by states, the average families of *Who's Who*
fathers contain all the way from about two and a half to
four children.   They are large in all the states that made up
the South in the Civil War, in the northerly states of Maine,
Vermont, Wisconsin, Minnesota and North Dakota, and in the
Mormon states of Utah and Idaho.   They are especially small
in Rhode Island, New York City, Washington, Chicago, Okla-
homa and Kansas, and in those of the Rocky Mountain states

where there are few Mormons. But the South need not think that it is going to furnish the leaders of the future. No, indeed, for as time goes on, the number of children per father, at least among the leaders, tends to become uniform all over the country.
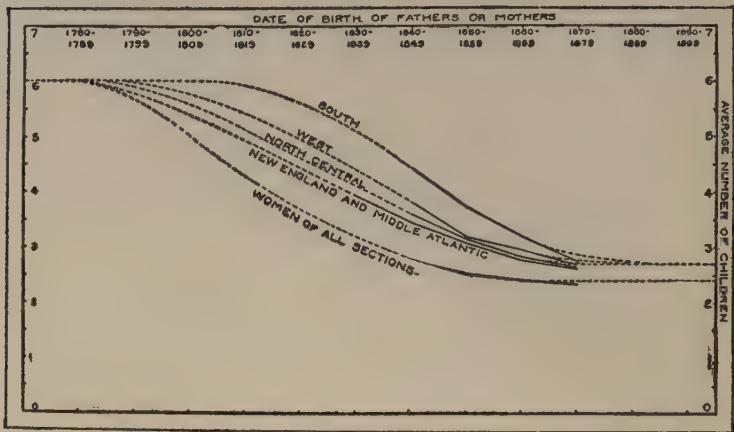
FIGURE 3. DECLINE IN SIZE OF FAMILIES AMONG PEOPLE OF "WHO'S WHO" TYPE IN FOUR SECTIONS OF THE UNITED STATES. BASED ON ALL FATHERS IN "WHO'S WHO" EXCEPT THOSE BORN AFTER 1879.

The tendency toward uniformity in the size of families is one of the most significant features of our whole investigation. It is illustrated in Figure 3, where the height of the solid lines shows the average number of children in families where the fathers were born at the time indicated along the top. Each curve shows a separate region. Only in New England and the Middle Atlantic states are there enough men in *Who's Who* to give a significant figure for families where the father was born before 1840. Such fathers had an average of 3.9 children. Among men born in the next decade, 1840 to 1849, the size of the families in New England and the Middle Atlantic states falls to less than 3.5. In the North Central states the number was a little larger, in the West still more so, and in the South highest of all, as appears in the diagram. The fami-

lies of these older leaders agree with the popular impression, for they increase in size toward the West and South. Now follow the lines toward the right. Three features stand out clearly: first the lines all drop, which means that the families in all sections of the country are growing smaller; second, the slope of the lines diminishes, which means that the process of reducing the size of the families is becoming slower; third, all of the lines tend to come together, which indicates that the families of leaders all over the country are now of practically the same size. The geographical differences, at least among the leaders, have practically disappeared.

Since the men who were born between 1870 and 1879 had not all completed their families when they reported the names of their children, the right-hand part of the solid lines in Figure 3 will ultimately stand a trifle higher than is now the case. The dotted lines suggest that in the future the stabilized average number of children reported in the families of the leading men of America is likely to be about 2.7 children, whereas the number in the families that have been most recently completed is about 2.8. Some allowance, however, must be made for the failure of parents to report children who die young. If such children amount to 10 per cent of the total, the average number of children per father among the leaders becomes exactly three, which is the number used in our calculations as to descendants. Our present point, however, is that families of this size appear to be the standard to which the leading men in all parts of the country, in the South as well as in New England, are tending to conform. Thus the good inheritance of the leaders threatens to die out all over the country.

Among the women of *Who's Who* the decline in the number of children has progressed much as among the men, as appears in the lower line of Figure 3. Among the mothers born before 1850 the average number of children is 2.8, but among those born from 1870 to 1879 this sinks to 2.3. As nearly as we can judge, if we make allowance for the children

who die young and are not reported, the families of the mothers who take an active part in the leadership of America are becoming stabilized at two and a half children as compared with three for the men. But bear in mind that whereas approximately 75 per cent of all the men in *Who's Who* have children, this is true of only about 45 per cent of the women.

Before we leave Figure 3 another interesting matter ought to be pointed out. The dotted lines on the left represent our interpretation of what has happened in the past. Three or four generations ago the number of children per family among the leaders probably averaged five or six in all sections that were then settled. In New England and the Middle Atlantic states, the pressure of foreign immigration, the growing density of population, the increase in city life, and various other factors caused the size of families to begin to decline early in the last century. This tendency becomes strongly apparent among parents born from 1780 to 1800. Since that time the decline has continued regularly, as indicated in Figure 3, but has grown less and less significant until now it has practically ceased. In the North Central states similar conditions have prevailed, but the diminution in the size of families did not begin quite so soon. In the West, or among the ancestors of the Westerners, the diminution began still later and in the South latest of all. That is why the southerners who were born from 1840 to 1849 have such large families, averaging 4.5 children. In regions where the decline in the size of families began late, however, it has progressed rapidly so that all parts of the country are now much alike.

This is interesting because it illustrates a sociological law of very broad application. When a social change is inaugurated, it begins slowly in regions which are especially advanced, then it accelerates and spreads to other regions. As time goes on and the distance from the starting point becomes greater, the initial impulse grows weaker, and the rate at which the change occurs grows less until finally no further change takes place. While the change is in progress, regions or social

classes which differ only a little or are geographically near together may differ widely. This was the case with the birth rate among the leaders in the North compared with the South a generation ago. When the change is complete such regions or classes differ little or not at all, as is now true of the leaders in the two sections. But in other regions and among other classes, more remote from the starting point, no change may occur. Thus among the lower classes in India, or even among the miners of America, the present movement for the limitation of families has caused scarcely a ripple. Hence the difference between their families and those of the leaders has become greater than ever, and may continue so indefinitely.

Although the geographical differences in the size of families among the leaders of America are disappearing, this does not seem to be true of differences between large places and small. Such differences are extremely important because of the strong tendency for the most able people, at least in certain occupations, to migrate to the city. How rapidly does this cause the descendants of the different types to disappear in big cities compared with small? In order to test this, let us use only the leaders who were married before 1905, and whose families are therefore complete. Here is what we find as to the six occupations which are represented by approximately five hundred men or more.

SIZE OF FAMILIES COMPARED WITH SIZE OF PLACE OF RESIDENCE AMONG MEN MARRIED BEFORE 1905

Size of Residence	1,670 Educators	476 Engineers	631 Government Officials	1,009 Lawyers	1,047 Religious Leaders	796 Scientists	Total*
Under 50,000	3.16	2.78	3.14	3.04	3.45	3.09	3.11
50,000 to 300,000	2.89	2.77	3.00	2.99	3.38	3.01	3.02
Over 300,000	2.57	2.68	2.99	3.06	3.38	2.70	2.87

* Including the four occupations next in importance, viz., banking and finance, literature, medicine, and publishing and printing. For additional data, see Table 5 in Appendix.

In every occupation except law the size of the families systematically declines from the small cities to the large. If we could separate the people living in places of under 50,000 inhabitants into a truly urban and a truly rural group, the differences would be still greater. But even as the figures now stand they are highly important. A table in the Appendix shows that the percentage who marry, the percentage of married people who have children, and the number of children per father and mother, all increase systematically as one goes from the big cities to the little ones. If we make an allowance of 10 per cent for children who die young and are not reported, it appears that among the leaders of America the conditions of marriage and parenthood are such that 1,000 men of the present generation in the cities bid fair to have only about 600 great-grandsons, while 1,000 in the places of less than 50,000 inhabitants will presumably have over 1,200. This is a very great difference. It means extermination for one group, survival for the other. Among women the contrast is even greater, but perhaps less significant, for 150 great-grandchildren in the smaller cities do not hold out a much more hopeful prospect than 65 in the larger.

If we take account of the fact that the death rate is greater in large cities than in small, the contrast in the number of probable descendants becomes still more pronounced. The few leaders who live in genuinely rural districts doubtless have fairly large families, but in proportion to the population such leaders are scarcely more than a tenth as numerous as in the larger places. Thus the leadership of the future seems likely to come mainly from the competent people who live in the small cities and large villages, or else in the suburbs of the great cities. The cities kill off the competent types; the rural population produces them only in small proportions. Our leaders do indeed marry in larger proportions than the rest of the population, but everywhere their families are dangerously small. The main group that is really maintaining itself,

compared with the rest of the population, is the highly edu-
cated type which remains in the small cities and towns.   The
college-bred business man in such a town, and the professional
man who takes a college course as well as a professional course,
have children enough to preserve their families from extinc-
tion.   The other kinds of leaders are dying out.

CHAPTER XIII

LEADERS OF THE FUTURE

PROFESSIONAL pride is a strong force in maintaining high standards. Does the following table increase or diminish your professional pride? It shows how many adult great-grandchildren 500 men in *Who's Who*, with their wives and the unmarried women who might have been their wives, would have a century hence if the present rates of marriage and birth should continue, if 15 per cent of each generation should die before reaching full maturity, and if the parents in *Who's Who* have failed to report a tenth of their children because of death in early childhood. The table is both a record and a prophecy. Study the order in which the occupations are arranged. On one side come the practical pursuits, the ones directly concerned with the material side of life. They deal with food, clothing, shelter, protection, health and the like. On the other side stand the idealistic or abstract pursuits, such as religion, education, science, law, literature, and art. They are the ones that give flavor to life, but all of them could be eliminated without destroying our supply of bread and butter.

The first notable fact about this table is that the practical pursuits systematically have more children than do the idealistic or abstract pursuits. Perhaps that is partly because on the whole the people who are engaged in supplying man's material needs have larger incomes than those who supply his spiritual and intellectual needs. Of course all the people in *Who's Who* are relatively prosperous. Nevertheless, no small number of them, especially those in the more intellectual and altruistic professions, such as the ministry, education,

literature and art, by no means have large incomes. In fact, many of them sacrifice income for the sake of carrying out the work that they love.

PROBABLE DESCENDANTS OF MEN IN "WHO'S WHO" ARRANGED
ACCORDING TO PROFESSIONS

Great-grandchildren per 1,000 persons

(500 men and the women who are or might have been their wives)

Practical Pursuits		Idealistic or Abstract Pursuits		
Farmers	2,830	Missionaries	2,300	
Agricultural scientists	1,540	Clergymen	1,735	(2,255 *)
Merchants	1,540	Educators	1,080	
Manufacturers	1,280	Scientists	990	
Bankers and financiers	855	Lawyers	910	
Other business men	800	Social workers	780	
Engineers	790	Journalists	610	
Government officials	780	Lecturers	600	
Publishers and printers	780	Librarians	550	
Doctors	770	Authors	420	
Architects	690	Musicians	280	
Military officers	475	Artists	225	
Railway executives	465	Antiquarians, etc.	220	
		Actors	165	

* Omitting Roman Catholic priests and other religious celibates.

Now look at the way in which the occupations are arranged in each of the two columns. Under the practical pursuits the farmers and agricultural scientists may be combined, for the two really represent one great occupation. The agriculturists in *Who's Who* are partly real farmers, but to a much greater degree they are men who study the science of farming in agricultural colleges, experiment stations, and the like. In primitive times such men developed the art of cattle raising, discovered how to harness animals, invented the plow, cart and hoe, learned how to preserve seed from year to year and made a hundred other discoveries and inventions which to-day seem extremely simple, but which originally demanded great originality and persistence.

Next to the agricultural leaders come the merchants and manufacturers. They represent two great fundamental occu-

pations which are the logical outcome of man's quest for food and of his need for tools and other materials which his own farm does not supply. The merchant came into existence as soon as primitive man conceived the idea of exchanging one kind of goods for another. Ever since then he has demanded a high price for services which seem slight, but which somehow give the merchant a great control over finances. Except among the lowest savages a human community without merchants is almost non-existent.

The growth of agriculture and of civilization required still another special group at a very early stage. This consisted of men who possessed skill of hand so that they excelled their fellows in making tools, pottery, cloth, weapons, and other articles. They were manufacturers. To-day, as of old, the manufacturers and merchants stand close together, for their occupations are more essential to the maintenance of the material side of civilization than are any others except farming. Is it not strange that agriculture, trade, and manufacturing, the most primitive and fundamental types of human occupations, are the only ones in the practical group whose leaders are fully reproducing themselves in modern America? Only among the true farmers, to be sure, are the number of children, the rate of marriage, and the percentage of married people who have children high enough so that the descendants of this group are likely to be relatively more numerous a hundred years hence than now. Nevertheless, the leading agricultural scientists, merchants and manufacturers appear to be at least holding their own, even in our growing population.

As we go down the column of practical pursuits, we pass from those that are older and more fundamental to those which are newer and less fundamental. Thus bankers and financiers do not form a part of primitive society, and neither do other business men, such as the builder, contractor, hotel manager and the like.

Along with these, and often ministering to them, come the

more intellectual types of practical pursuits, those whereby
the knowledge assiduously acquired by the men engaged in
the idealistic and abstract occupations is applied to the con-
crete needs of civilization. A chemical engineer, for example,
applies chemistry to the manufacture of gun powder, soap or
paint. The mechanical engineer applies physics to the mak-
ing of roads, bridges and automobiles. The duty of the gov-
ernment official is to give practical application to the science
of law as worked out by the lawyer. In the same way the pub-
lisher and printer are the practical men in the occupation fol-
lowed by writers of all sorts. The physician in turn applies
biology and physiology to the repair and improvement of the
human body; while the architect combines business and art to
produce the skyscraper or the cathedral. The railway execu-
tive takes the economic portion of his basic facts from the
abstract pursuits, but he combines with this the work of the
practical engineer.

In this whole list the military officers are the only ones who
fail to fit into a consistent sequence. Although they represent
one of the oldest and most fundamental of occupations, they
have almost the smallest families. The reason is obviously the
irregularity of their lives, so that we need not discuss them
further.

Omitting the officers, the practical pursuits here listed show
an almost perfect sequence from the most primitive and fun-
damental, as exemplified by the farmers, to the most modern
and least fundamental. Railway executives are indeed very
important, but the world got along very well without them
until two or three generations ago, and was highly civilized
in spite of it. If necessary, the world could again get along
and civilization could rise to at least moderate levels without
any of the occupations in the lower part of our table. In fact
it did so for thousands upon thousands of years. The pro-
fessional engineer, for example, is a relatively recent arrival,
and so are the publisher and printer. Even the physician

broke loose from the priest and drug merchant only a few generations ago in many enlightened parts of the earth. But the farmer has been with us ever since the dawn of civilization and is likely to be essential for a long, long time to come in spite of the synthetic chemists who want to feed us with capsules.

Remember that this arrangement of the occupations has not been made by us. It represents the actual facts as to the number of children among the men in *"Who's Who*. The more primitive and practical the occupation, the greater the number of children; the more recent the occupation and the less essential to human existence, the smaller the number of children. All the people with whom we are dealing belong to the upper levels of society. Most of them are prosperous and practically all could afford to have large families. There is no reason to think that the farmers, agricultural scientists, merchants and manufacturers in *Who's Who* are either better or worse off economically than are the publishers, doctors, architects, and railway men. Economic and social conditions in the ordinary sense of the words apparently have little to do with the differences in the number of children. Somehow or other the degree to which the occupation is fundamental seems to be the controlling factor.

A similar condition appears in the other side of our table. This, too, begins with the most fundamental occupations. Just as farming represents man's primitive quest for food, so religion represents his most primeval intellectual quest—the search for God or for the powers of nature that lie outside man's own self. The priest has always been a dominant figure in human civilization; the farther back we go the more he towers above all other types of leaders. The missionary is the most zealous of the religious leaders, and in a certain way the most primitive because he represents the type of man who originally imposes religious ideas and customs upon the rest of mankind.

As soon as the priesthood assumes the rôle of a special occupation, the priests at once become the conservators of knowledge. In a primitive civilization they alone know how to read and write; they alone enjoy both the leisure and the mentality to investigate new truths and make abstract discoveries. They too are the ones who originally arrange and codify the laws, even if they do not make them. Thus the natural development is from the priest to the educator, then to the scientist and on to the lawyer. That is just the order that we find in our table, the order of diminishing size of families. Without men who devote themselves to the fundamental intellectual pursuits of religion, education, science and law, no community can lay claim to any real civilization. But with these fundamentals it can rise to a fairly high level even though the other phases of human culture receive little attention. During long periods of history, such as the Dark Ages, people concentrated practically all their attention upon these more basic aspects of life to the almost complete neglect of everything else.

The other phases of intellectual activity represented among the idealistic pursuits include what we may almost call the frills of civilization, or, better, the choice adornments which are put on after all the other clothing. Thus the social worker—who perhaps might be called a practical as well as an idealistic worker—is a very late development. Many of the highest civilizations have existed without any such people. The journalist, lecturer, librarian, author and antiquarian all represent a single great pursuit, most practical in the case of the journalist, least practical in that of the antiquarian. Here again we have an occupation which adds immensely to the value of life but which is of little value in supplying the material side of human needs. A civilization without literature, lectures and libraries might get along as well as our civilization in most of its material aspects. Finally, the progress of human culture finds its latest, though not necessarily its high-

est, expression in music, art and drama. Many a civilization has existed almost without these, or at least without persons professionally devoted to them. Great symphonies, great pictures, great dramas, are even less essential than great books. Yet all of these add so vastly to the beauty and joy of life that sometimes they are falsely thought to be the only things that make life worth living. In reality they are like the dessert at the end of the meal. Their highest development marks the crests of human progress, as in the great waves of culture that emanated from Greece in her prime and from Italy during the Renaissance.

Look again at the table. See how it sketches the progress of civilization. From the great fundamental cravings of the individual for food and religion it passes to the basic needs of primitive civilization in the form of trade, manufacturing, teaching, science, education and government. Then it reaches out to the higher or later developments of these same activities in the shape of other sorts of business on the one hand, and the applied professions of engineering, medicine, and the like on the other hand. Last of all appear the literary and artistic phases which come as the final climax of a high civilization, the precursors of destruction. If we read the table aright, it means that somehow or other, even among leaders who all belong to the upper classes, there is an extraordinarily close connection between the birth rate and the degree to which the occupation is a fundamental necessity of human existence.

It is assuredly no light thing that in the average family of the agricultural leader who has any children at all there are nearly four children and in that of the actor only a bit over two. It is no less significant that whereas 77 per cent of all the farm leaders have children, this is true of only 52 per cent of the actors. All this means that 1,000 farm leaders (500 men and the women who are or might have been their wives) will presumably have nearly 3,000 adult descendants at the end of a century, while the same number of

artists will have only 165. Seventeen times as many for the farmers as for the artists after only three generations; nearly

The College Graduate

"Who's Who"

The Successful Farmer

The Carpenter

The Mormon

The Poor Miner

Highgrade Moron

THE RELATIVE SIZE OF FAMILIES OF CERTAIN TYPES OF AMERICANS.

300 times as many at the end of two centuries! The contrast becomes still more significant when we recall that the type of ability needed for success in farming is vastly more common

than the type required for art. Of course that is as it should be, for farming is more important than art. Most persons would prefer to live comfortably in a world made up of farmers rather than die by inches in a world of artists. Nevertheless, neither more farming nor better farming adds to the value of life as do more art and better art. Good art is scarce, and we shudder for fear that we may lose what little we have. That is where we seem to be headed.

A similar comparison may be made between religion on the one hand, and drama and music on the other. The religious people who inherit the power of leadership are increasing fairly rapidly and will probably fully maintain their place in the community. That is as it should be. We welcome it as one of the most encouraging facts that has been discovered in many a long day. But is it right that dramatic and musical ability should decline so rapidly? Not only is there danger that we shall cease to make progress in these lines and thereby lose much of the grace and flavor of life, but as the finer actors and musicians are culled out, is it not almost certain that lower types will take their places? A vast number of ordinary people want drama and music. If these are not supplied by actors and musicians of high ability, they will be furnished by persons of lower and lower caliber, and will tend more and more to become vulgar and harmful. How much does the vulgarity and inartistic quality of the theater, the movies, jazz, and our modern dances arise from the fact that already the birth rate among persons of genuine artistic and musical talent has declined so much that their place is usurped in large measure by people of low ability?

Still another contrast of the same kind is found between such occupations as commerce and manufacturing on the one hand, and journalism and literature on the other. Here again the more ordinary type of ability is reproducing itself with sufficient rapidity so that the number of leaders will at least

remain as large as at present, whereas the less common types and the ones requiring the more highly developed and unusual talents are dying out.

The significance of the order in which the occupations of our table arrange themselves may be judged in still another way. At the top, with many descendants, stand the people who excel in the practical affairs of life, and in idealism and altruism—the farmer, merchant and manufacturer on the one hand, and the missionary, clergyman and philanthropist on the other. At the bottom stand not only those who excel in the more special talents of art, music, literature, but those who are especially controlled by the emotions. Literary and artistic people are far more likely to be temperamental, impractical, and high strung than are farmers, ministers and merchants. Between these two extremes, but nevertheless with a diminishing number of descendants from generation to generation, come the so-called major professions. These are dominated by the power to reason—by the intellect as opposed to the altruistic and reverential emotions of religion and the self-centered and esthetic emotions of art and music. Of course, the best teachers, scientists, architects, publishers, doctors, engineers, and railroad executives should be well endowed with the idealism and reverence represented by religion, with the practical sense represented by business, and with the imagination and originality represented by literature, art, and the theater, but the intellectual powers are their main reliance.

The decline of this intellectual group, as it seems to us, is the greatest danger to-day. There seems to be relatively little danger that the supply of leaders will be seriously depleted along the lines of religion, or of the occupations that supply our material needs. The world could get along, even though it suffered, if there were a decline in literature, art and the like. But let the supply of able educators, scientists, architects, publishers, doctors, engineers, railroad administrators

and journalists decline, and where will the world go to? They
are the ones whose diminution is most dangerous, for in them
centers by far the greater part of modern progress.

We are appalled as we think of the deep significance of this
table with its practical and unimaginative occupations at the
increasing end, its intellectual occupations in the declining
middle, and its impractical but imaginative and esthetic occu-
pations at the end where decline is most rapid. Doubtless
such an arrangement is better than the reverse with the prac-
tical people rapidly declining and the temperamental people
increasing. But what kind of civilization is it going to give
us. Each of these three groups represents a distinct type of
civilization. Are we headed toward the type where hard-
headed business men, practical politicians, and fundamentalist
religious leaders frown on science, check progress, repress art,
and destroy the pleasure of life? Shall we make a frantic
effort toward the other extreme—the type dominated by per-
sons who go mad over literature, the theater, music, and art,
where practical affairs are neglected, and where the pleasure
of the moment and the satisfaction of esthetic desires are the
main end of life? Or shall we aim at a civilization where edu-
cation, science, philanthropy, and such practical applications
of art and science as architecture, publishing, medicine, en-
gineering, and journalism, hold the balance between the two
extremes and make a world in which all sides of life are well
developed? As things now are we seem to be headed toward
a state of society in which not only are beauty, art and love-
liness being relentlessly destroyed, but in which literature,
science and other forms of intellectual effort are fast being
degraded or even eliminated.

But wait a minute. May not the rapid diminution in the
size of families alter our conclusions here as it did when we
supposed that the families of the leaders in the South and
West are larger than in the Northeast? May it not be that
from generation to generation the size of families diminishes

fastest in the occupations with the highest birth rate so that
the different occupations tend to become alike just as do
different geographical regions? These questions are partly
answered in Figure 4. Each line in that figure represents the
number of children per father in a given occupation. The
dotted sections may be ignored because they are based on less
than twenty families, too few to be significant. The rest of
the lines display two distinct tendencies. The first is a gen-
eral parallelism which is what concerns us here; the second is
a tendency for certain lines to cut across the others, which we
shall discuss later.

The fact that so many lines run nearly parallel in Figure
4 means that in most cases the differences between the number
of children per father in the various occupations are not dis-
appearing in any such way as are the corresponding differences
between the families of the leaders in one geographical section
and another. In fact, if we take into account the percentage
of the married men who are childless, the contrasts between
one profession and another are perhaps becoming intensified.
Childlessness appears to be growing more and more common in
the less altruistic and more temperamental professions, such as
art and music, whereas there is little change in this respect
among the more altruistic professions, such as the ministry.
Thus in the number of children *per man*, not per father, one
profession perhaps differs more from another to-day than ever
before. There is thus no sign of even a relative improvement,
let alone an absolute improvement in the rate of reproduction
among leaders engaged in the engineering, literary, musical
and artistic phases of civilization. Unless art can be wedded
to farming, music to religion, literature to commerce, and en-
gineering to manufacturing, or some such combination, it is
hard to see how a great debacle of civilization—a great return
to the Dark Ages—is to be avoided.

CHAPTER XIV

To most of us it would seem as if missionaries and ministers were much more alike than missionaries and bankers. As a matter of fact this is not so; at least it is not so in respect to changes in the birth rate from decade to decade among the people included in *Who's Who*. Bankers and missionaries appear to be on the upgrade so far as the number of children per father is concerned, while ministers have recently tobogganed down hill very fast. But before we talk about any of the others, let us consider physicians, who make a fourth among a group of professions where interesting changes in the birth rate seem to be occurring.

The whole thing is illustrated in Figure 4, where the height of the lines shows the number of children per father among living leaders who were born in successive decades. The line for physicians has been drawn more heavily than those for other professions, because it is unique. It represents the way in which the birth rate has tended to became stabilized by means of knowledge. During the four decades represented in the diagram, the size of physicians' families has suffered no real change. It has fluctuated, to be sure, but the mild irregularities now apparent would probably disappear if we had records for 10,000 physicians instead of only 645. The uniform size of physicians' families from decade to decade seems to mean that doctors, by reason of their professional knowledge, began to practice contraceptive measures long before this happened with other professions. They standardized their families at an average of about three children at least a generation ago, and no one knows how much earlier. Among the

leaders in other professions, and even in business, the families
tend to approximate to the size set by the physicians half a
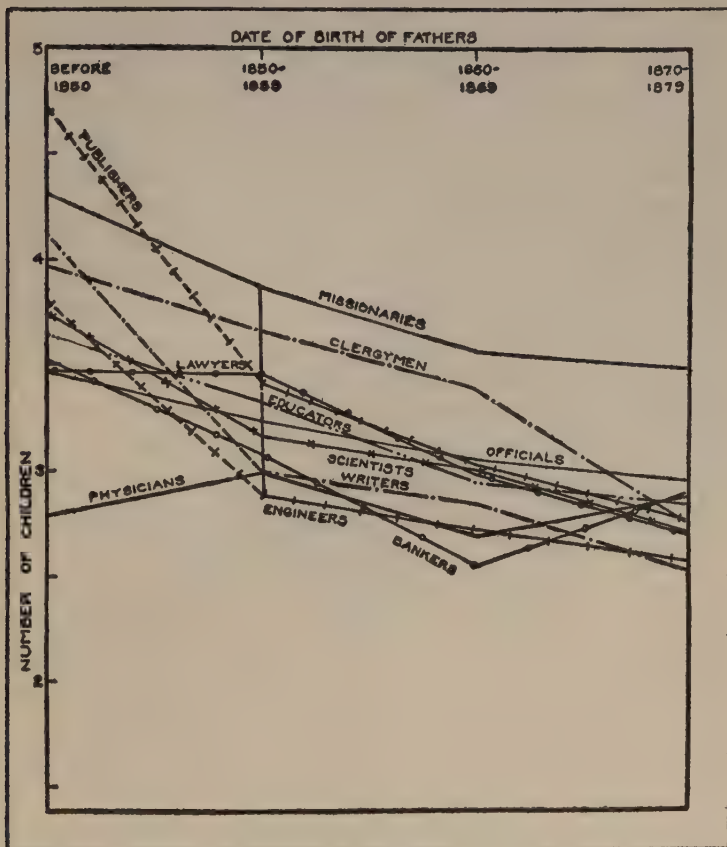
FIGURE 4.   CHANGE IN SIZE OF FAMILIES AMONG PEOPLE OF "WHO'S
WHO" IN OCCUPATIONS MOST LARGELY REPRESENTED, AND AMONG
MISSIONARIES.   ONLY MEN MARRIED BEFORE 1905 ARE INCLUDED,
WHICH MAKES THE AVERAGE ABOUT THREE PER CENT HIGHER HERE
THAN IN FIGURE 3.

century ago when the men born before 1850 had recently been
married.

The families of both bankers and ministers have suffered
quite a different fate from those of doctors.   In the latest of

the four decades of our diagram the ministers suddenly lose their position as the fathers of unusually large families, whereas the bankers rise from the lowest place among the occupations of Figure 4 to the third from the highest. Something happened to the younger group of ministers, who still are old enough to have been married before 1905, so that they limited their families to practically the same extent as do the other main professional groups. Something has enlarged the families of the bankers.

The change in the size of the families among both ministers and bankers seems to be due to the same cause, namely the interaction of the new freedom as to birth control with old conditions of an economic nature.

It is safe to say that few bankers, at least in the later generation, feel any moral compulsion to be married, or to have children if they are married. The fact that 92 per cent of them are married shows that in this respect they behave essentially like the average of the leaders in all occupations. But the bankers in *Who's Who,* being highly intelligent, now know enough about contraception to limit the size of their families as they please. Before birth control became so well understood, many bankers who meant to have no children probably had one or two in spite of themselves, thus lowering the average size of the families, as appears in Figure 4. To-day those who do not want children, or whose wives do not want them, have none. The result is that only 77 per cent of the married bankers have any children. This means that something like 10 per cent of the bankers—men who formerly might have had one or two children—now have none through their own choice. The omission of such small families raises the average in the last decade of Figure 4. The 71 per cent of the leading bankers who have children consist mainly of men who want them and can, of course, afford them.

The clergymen are in quite a different position. Our table in the appendix, to be sure, shows that only 91 per cent of the

religious leaders are married. But the nine per cent who are unmarried are almost entirely Roman Catholic priests. Among the Protestants, practically 100 per cent of the leading ministers are married. That is partly because the great majority feel that they ought to be married for the sake of their influence upon the community. It is also because the great majority have the kind of temperament that makes them love family life and children. Among those who are married, 85 per cent have children. In this respect they surpass the bankers, not only because of their temperamental love of children, but also, no doubt, because their high moral standards cause them to be almost completely free from physical defects due to self-indulgence.

Unfortunately, even the most eminent ministers rarely have large salaries; probably few of those in *Who's Who* have incomes of more than $5,000 or $10,000. Since the great majority probably have not much more than $5,000, each additional child is a real economic problem. Among ministers, as among other people, the breaking down of old traditions has gone on apace in recent decades. Many of the older men who are still living grew up in the belief that the limitation of families by any means except strict continence is wrong; the younger generation agrees with other professions in believing that contraceptive measures are permissible. The drop in the size of ministers' families from 3.4 per father among the men born in 1860-1869 to 2.8 among those born in 1870-1879 seems to represent the results of this change of attitude plus the economic handicap of the clerical profession at a time when the cost of living rose with unusual speed. The Protestant ministers, as we interpret it, still believe in being married and in having children, as appears from the fact that 85 per cent of them are the fathers of families as compared with 71 per cent of the bankers. But the ministers who have children feel, rightly or wrongly, that they ought to limit the number of their children. Hence the ministerial families have recently

dropped to essentially the same level as those of the other professional groups. Yet thanks to their high rate of marriage and their small proportion of childlessness the Protestant ministers who were born from 1870 to 1879 and married before 1905 bid fair to have 2,200 great-grandchildren per 1,000 persons in contrast to only 1,480 for the corresponding bankers.*

The most interesting of all the professional groups in Figure 4 is the missionaries. In order to get a group large enough to be significant we have added to the 49 in *Who's Who* a group of 158 Congregational missionaries from the American Board of Missions. The missionaries report larger families than any other group in Figure 4, namely, 4.3 children at the beginning, and 3.5 at the end. This in itself is not surprising. One reason—perhaps the greatest—is that missionaries are highly selected on the basis of health, moral character and altruism, but there are other reasons, as we shall see later.

In spite of this selection, missionaries resemble other competent, conscientious people of the type that predominates in *Who's Who*. One evidence of this is the way in which their families have responded to the modern tendency toward reduction in the number of children. Notice how their line slopes downward, parallel to the main trend in the left-hand portion of Figure 4. Then comes a change. Instead of plunging down to the general level, like the line for ministers' families, the missionary line bends the other way. Even though it does not turn upward like the bankers' line, its downward course is checked. Abundant data for missionaries born from 1880 to 1889 suggest that their families, when complete, will actually average larger than those of the missionaries born in the preceding decade. The missionary families, like those of the bankers, appear to be increasing in size. (Appendix, Table 16.)

Why should the missionaries behave so differently from the ministers? The two groups differ only slightly in character.

* Assuming, as usual, that 10 per cent of the children in each group are not reported.

It is possible that the missionaries do not understand birth control, or are less continent now than in the past? Not at all. The missionaries here considered are all highly educated and intelligent. They probably know as much about birth control as do the ministers at home; and they are under the constant advice of missionary physicians of high caliber. Their powers of self-control are illustrated by what a missionary with three children under fifteen years of age told us not long ago. He and his wife, after having had one child and while in good health, lived together like brother and sister for seven years or so because he had decided to become a missionary. They thought they ought not to have more children until he had completed his education. That is the sort of thing which the ordinary missionary does as a matter of course. Nevertheless, the missionary just referred to told us that since the birth of their second child, he and his wife have concluded that certain types of contraceptive practices are not only right but wise. That is typical of the younger generation of missionaries in the more intellectual denominations, yet those same missionaries are having families as large as those of their immediate predecessors and much larger than those of their ministerial colleagues at home. Why this anomaly?

The explanation is probably the same as in the case of the bankers. The tendency toward larger families among the poorest and the richest of the occupational groups in *Who's Who* appears to lie in economic freedom *among those members of each group who combine physical health with the love of children*. Ridiculous, do you say? How can any sane person speak of economic freedom among refined, educated people where the annual salary for a man in the full maturity of his powers generally ranges from $1,000 to $2,000? Here is the answer. Missionary salaries are paid on a family basis. A single man receives a salary just large enough to support him and pay his necessary expenses. A single woman receives a salary based on exactly the same principle. If the

two are married they receive the same joint salary as before, except for certain deductions due to the fact that two people can live for less than twice as much as one.

Suppose a child is born in such a family. How much will it change the economic status? Not at all, or else for the better. There is no physican's fee of $150, no hospital charges of $100, no extra $100 for a nurse. The mission provides physician, hospital, and nurse, or else the other missionaries take care of the child and the mother. As soon as the child is born, the family salary automatically increases by approximately 10 per cent. While the baby is being nursed—most missionary mothers nurse their babies—and for several years thereafter the allowance for the child more than pays the extra expenses. It may even permit very thrifty parents to lay aside a little—very little indeed—for the heavier expenses which will come later. Each child receives the same allowance. If the family outgrows the old house, the mission provides a new and larger one. If the children go to America to be educated, not only are the traveling expenses paid, just as for the parents, but the allowance is increased. After the age of 12 years it usually increases 50 per cent and may be doubled. Moreover, if the children have to be in America without the parents, there are special homes in which they can live, and boarding schools of high quality where they can be received at a minimum charge and given opportunities to earn money. By the time the allowances come to an end, at the age of 18, or perhaps 21 if the children go to college, as they generally do, the competent, well-trained children of missionaries can usually support themselves with ease. Thus, from first to last, the coming of children into the poor missionary family, as into the rich banker's family, makes no appreciable change of economic status. The family with six children is required to make a pecuniary sacrifice little if any beyond that of the family with a single child or none.

But how do you know that the method of paying missionary salaries has any such marked effect on the size of families?

One answer is found in the opinions of the missionaries themselves. The old missionary who through biological misfortune has no children, and the missionary mother who for similar reasons has only one child, may say that they never thought of any connection between allowances for children and the size of families. So may the old missionary secretary who has never lived in a mission station. The young mission secretary, on the other hand, feels sure that the allowances and the general mode of missionary economics make a difference.

The older secretary whose children were born on the mission field says that the attitude of the missionaries proves that the allowances really make a difference. He knows that while he and his wife did not consciously put the matter into words, they felt free to have children, and knew that the children would be adequately provided for. The young missionary and his wife who have two or three children and want more, and who are wide awake to modern ideas as to eugenics, birth control, contraception and the like, are enthusiastically sure that in their case the missionary economic system makes all the difference between one or two children and four or five. At Robert College in Constantinople and at the Syrian Protestant University at Beirut, where the missionary system of salaries has been adopted since the war, the authorities are certain that the attitude of the faculties toward children has changed. One no longer hears the old complaint that poor teachers cannot afford children. Thus the people whose knowledge is based on experience all agree that the freedom of the missionaries from increased economic pressure with the coming of children is a vital factor in enlarging their families. That fact is of the utmost practical importance; it strikes at the heart of the problem of how the birth rates of the future may wisely be controlled.

Religion is very closely connected with the birth rate, not only in the case of missionaries, but in other respects. About half of the records in *Who's Who* contain a statement of re-

ligious affiliations. On an average it seems fair to conclude that those who fill out this part of their record are somewhat more religious in temperament than are those who fail to do so. Is there any difference in the size of families in these two groups? Among the women, no; among the men, yes, decidedly. No less than 93 per cent of the men who report a religious preference also report marriage, but only 84 per cent of the others. About 83 per cent of the more religious married men are estimated as having children, only 78 per cent of the others. Moreover, the fathers of the religious group report 2.86 children apiece against 2.72 for the others. If all these differences are taken together, and if we allow 10 per cent for children who are not reported, we find that 1,000 parents of the more religious type will presumably have about 1,130 great-grandchildren, whereas the same number of parents of the other type will have only about 590. This is a most significant difference. It means not only that the religious leaders have more descendants than do those in other lines of activity, but that in other occupations also the leaders of a more religious turn of mind are increasing at such a rate that a century hence they will be twice as important, relatively, as the less religious elements. It is hard to overestimate the importance of such a tendency.

But what kind of religious people are increasing? Which denominations. Here is a table which not only answers this question, but shows how important each denomination is as a source of leaders in proportion to its number of adherents. We use adherents instead of members so that we may make fair comparisons between Roman Catholics and others. The size of the different denominations has been taken from the *Year Book of the Churches for 1925*.

Notice the extraordinary way in which the number of leaders per 100,000 adherents rises, while the number of probable descendants declines as we pass from the less intellectual denominations at the top of the table to the more intellectual at the bottom. The United Brethren, Evangelicals, Lutherans,

Brethren, and Roman Catholics have only three to eight men in *Who's Who* per 100,000 adherents. The Mormons, Disciples, and Adventists, with 11, are scarcely better. Above them come such great groups as the Reformed Church, the Baptists, Methodists, and Jews, with 13 to 20. Even though the col-

RELIGIOUS AFFILIATIONS OF PEOPLE IN "WHO'S WHO" COMPARED WITH
EMINENT PERSONS AND PROBABLE DESCENDANTS

	(Men)		(Women)	
Name of Denomination	Men in "Who's Who" Per 100,000 Adherents	Probable Great-grandchildren Per 1,000 Persons*	Women in "Who's Who" Per 100,000 Adherents	Probable Great-grandchildren Per 1,000 Persons
Mormons	11	10,200	5	2,400
United Brethren	3	2,320	..	....
Lutherans	8	1,950	0.2	....
Evangelicals	5	1,730	..	....
Brethren	7	1,600	..	....
Reformed	13	1,580	0.7	....
Baptists	16	1,560	..	152
Methodists	18	1,455	..	166
Disciples	11	1,450	0.4	....
Christians	45	1,380	7.	....
Roman Catholics	7	1,310 **	0.4	99
Presbyterians	62	1,230	4.	169
Adventists	11	1,190	9.3	....
Congregationalists	115	1,125	10	29
Unitarians	1,185	1,025	103	82
Episcopalians	156	910	18	99
Friends	31	855	3	....
Jews	20	755	1	....
Universalists	390	500	21	....

* A thousand persons means 500 men (or women) and the women (or men) whom they married or might have married.
** Omitting Roman Catholic priests. If they are included the number falls to 450.
For further data, see Table 10 in Appendix.

ored churches have been omitted in computing our table, the Baptists and Methodists rank relatively low. It is somewhat surprising to find that the Jews also stand low. Perhaps Jews are more prone than others to refrain from expressing their religious preference, but we have allowed for this by reckoning the Jews at 1,600,000—less than half the number which many of them claim. Our figures represent the presumable adherents

of synagogues, whereas 3,000,000 or even 3,500,000 may be the number of all Jews regardless of the fact that many of them have given up their faith and tend to amalgamate with the Gentiles. Nevertheless, unless the East Side type of Jew as found in New York City is even more numerous than we have supposed, we do not understand just why the Jews, with only 20 men in *Who's Who* per 100,000 adherents, stand so low. The Quakers with 31 make only a little better showing, but perhaps this is because many leaders of Quaker descent no longer lay claim to membership in the old church. In spite of this we should have supposed that the Jews and Friends would claim a decidedly larger proportion of leaders than does the mid-western denomination which arrogates to itself the title of Christian, but the Christians have 45 persons in *Who's Who* for every 100,000 of their adherents. At a still higher level come the most intellectual denominations, Presbyterians with 62 men per 100,000 adherents, Congregationalists with 118, Episcopalians 156, Universalists 390 and Unitarians 1,185. The number of women in *Who's Who* varies from denomination to denomination much as does that of the men except that the contrasts are even greater. A Unitarian woman is 200 times as likely to be in *Who's Who* as is a Roman Catholic woman, and over 30 times as likely as a man among the United Brethren.

Perhaps the number of Unitarians in *Who's Who* is swelled by the names of some scientific men who put themselves down as belonging to that denomination although not affiliated with the Unitarian church, but this seems highly doubtful. Perhaps the Roman Catholics are less likely than others to report their religious affiliations, though we do not see why this should be so. But even if the most liberal allowances are made for such factors, the Unitarians still appear to furnish 100 times as many leaders as the Roman Catholics in proportion to their total numbers.

The extraordinary contrast between Unitarians and Roman Catholics seems to be due to the same general causes which

explain the aspect of our table as a whole, at least so far as the proportion of men in *Who's Who* is concerned. The Unitarians are the product of a prolonged process of selection which has been preëminently intellectual. Only a thoughtful person in whom intellect dominates the emotions is likely to be attracted to that rather coldly self-contained denomination by reason of its creed. Occasionally, of course, the social prestige of a Unitarian church around Boston, for example, may attract people of a different type, but that is a minor matter. Often such persons, as well as relatively unintellectual and emotional people who happen to be born among the Unitarians, drift away to some other church. This happens the more easily because the Unitarians, in complete contrast to the Roman Catholics, make almost as little effort to hold adherents as to gain them. Such conditions largely explain both the numerical weakness and the intellectual strength of the Unitarians. They cause that church to contain an unusually large proportion of people belonging to a highly specialized type. As a rule, an active Unitarian is likely to be not only of an intellectual temperament, but of a deeply religious temperament, for none other would work actively in a church where there is so little appeal to the emotions. But intellect and the religious temperament are among the greatest keynotes of success.

The Roman Catholic Church has been subject to an opposite set of conditions. In the more advanced countries its converts are likely to be impelled mainly by emotion, or by the desire to solve their intellectual doubts once for all by a great act of faith. Occasionally, to be sure, an intellectual leader like Cardinal Newman may be converted from Protestantism to Romanism, but only when the emotional nature is highly developed. Such cases do not alter the general rule. The truth, although only one side of it, is illustrated in the following quotation from an article by Dr. Charles Fama in the *Forum* for June, 1925. Mr. Fama was brought up a Catholic but is now a prominent Italian-American Protestant.

He planned to be a medical missionary, and though not ordained, is president of the Italian Protestant Ministers Association.

". . . Only last Sunday, one of our Presbyterian churches, that of the Holy Trinity in the Bronx, received 96 new members at one time, all converted from Romanism. The Roman Church boasts greatly when some Protestant minister (generally a High Episcopalian) goes over to them, and advertises the fact in every way. Now, one only of our Protestant institutions, the Biblical Seminary in New York (Interdenominational), during the last 15 years has had not less than 40 former priests or monks of the Church of Rome among the students preparing for the Ministry in its Italian Department, and at the present time there are four such actually preparing for the ministry of some Protestant denomination.

"In 1911, according to the Catholic Directory of that year, there were 150 Italian Roman Catholic churches in the United States and 250 Italian Protestant churches. The latter have now increased to 304."

The failure of the Roman Catholic church to produce leaders does not arise merely from the fact that people of independent mind are likely to leave the church. One of the other factors is that the church hangs onto its adherents like grim death. Other denominations, especially those that are intellectual rather than emotional, let the weaker brothers and sisters drift away, and are thereby purged, as it were. Not so the Catholics; they cling to even the poorest and weakest. This may be good for the individual, but it lowers the average of the church as a whole.

Quite as important as the people whom a church holds are those whom it loses. Because of the widespread prevalence of religious celibacy, the Catholic church loses, or at least fails to produce, an enormous number of children who might have been leaders. The small proportion of Roman Catholics in *Who's Who* seems to furnish concrete evidence that the rea-

soning of Galton, John Fiske and others is correct. Time and again, in both America and Europe it has been shown that Protestant clergymen and college professors are more likely than almost any other important groups to be the fathers of eminent leaders. In the Roman Catholic church the great majority of the men who burn with zeal for education and science, as well as for religion, have for ages found little chance to follow their deepest inclinations except by way of celibacy and the church. Thus not only the religious temperament, but the intellectual and scientific temperaments, have been weeded out remorselessly. The result is that to-day, in proportion to their numbers, the Roman Catholics stand close to the bottom as a source of American leaders. Worse yet, the prospect for future improvement is slight because the best germ plasm has been so terribly depleted.

One of the worst features of this whole situation is that the denominations which furnish the largest number of leaders are the ones in which the leaders most signally fail to reproduce themselves. The leaders in some of the intellectual denominations not only fail to maintain their place in the growing population of America, but do not even maintain their present numbers. The Episcopalians and Universalists have such low birth rates that the descendants of the leaders bid fair to be less numerous than the leaders of to-day. The families of the Congregational, Presbyterian and Unitarian leaders are not increasing so fast as is the population as a whole. The Christians, Methodists, and Baptists are doing a little better, but are not much more than holding their own amid our growing population. Moreover, among these only the Christians produce a really large proportion of leaders. On the other hand, with the sole exception of the Roman Catholics, the families of the leaders in all the denominations which have less than 10 persons in *Who's Who* per 100,000 adherents are increasing so rapidly that they are presumably gaining in comparison with the rest of the people of the

United States. In other words, we may almost say that the more intellectual a denomination is, the more likely it is to die out. But those denominations in which the main appeal is to the emotions or to that quality, whatever it may be, which makes a person willing to accept authority, are increasing. At least their leaders have good-sized families, and we are quite sure that in general the rank and file do equally well.

Two features deserve special comment in this connection; one is the extraordinary rate of increase among the Mormon leaders; the other the low rate among the Roman Catholics. At the present rate of reproduction, the great-grandchildren of the leading Mormon families are likely to be seven or eight times as numerous as the present generation. At that rate Mormonism will spread like wildfire. No wonder the power of that church is increasing rapidly; in some cases the large size of the families in *Who's Who* is doubtless the result of polygamy, but that can be only a small item, for polygamy had been practiced rarely or not at all for two decades. Moreover, the Mormon women who report any children at all report more than do any other group, namely 3.3 per mother. If women who are sufficiently distinguished to be in *Who's Who* have so many children, it is almost certain that those who are more domestic and have no careers have more. Therefore we see nothing unreasonable in supposing that even without polygamy, the Mormon system would lead to families averaging about five children per father. But there is more than this to it. Practically every Mormon in *Who's Who* is married, and 88 per cent of them have children. That is another reason why they increase so rapidly. They marry young too, for among all the states Utah shows by far the lowest average age at marriage among its leaders—only 24 years. The significance of all this lies in its demonstration that the birth rate can be very easily controlled. The Mormons have deliberately set themselves to encourage a high birth rate. They have succeeded, perhaps beyond their expec-

tations. Their leaders, at least, are increasing at a rate which must cause them great rejoicing.

Quite as significant as the high Mormon rate of increase is the low rate for the Roman Catholic leaders. We have been told again and again that the Roman Catholic Church frowns upon birth control. It preaches, we are told, that conception is a natural function, a divine process, with which man has no right to interfere. At least that is what the unintelligent Catholic is taught. But how about the leaders? We wonder how many people realize that they are not subject to any religious restraint in this matter. According to Havelock Ellis in *Studies in the Psychology of Sex*:

"What has happened is that the church—always alive to sexual questions—has realized the importance of the modern movement, and has adapted herself to it by proclaiming to her more ignorant and uneducated children that incomplete intercourse is a deadly sin, while at the same time, refraining from making inquiries into this matter among her more educated members.

"The question was definitely brought up for Papal judgment by Bishop Bouvier of Le Mans, who stated the matter very clearly, representing to the Pope [Gregory XVI, who was in office from 1831 to 1846] that prevention of conception was becoming very common and that to treat it as a deadly sin merely resulted in driving the penitent away from confession. After mature consideration, the Curia Sacre Pœnitentiaria replied by pointing out, . . . that since it was due to the wrong act of the man, the woman (who has been forced by her husband to consent to it) has committed no sin. Further, the Bishop was reminded of the wise dictum of Liguori, 'the most learned and experienced man in these matters,' that the confessor is not usually called upon to make inquiry upon so delicate a matter as the *debitum conjugale,* and, if his opinion is not asked, he should be silent. We see, therefore, that, among Catholic as well as among non-

Catholic populations, the adoption of preventive methods of conception follows progress and civilization, and that the general practice of such methods by Catholics (with the tacit consent of the church) is merely a matter of time."

The meaning of all this is obvious when taken in connection with our figures as to the rate of increase among the Roman Catholic leaders. The Roman Catholic church, by preaching against contraceptive measures among the poor and lowly, but by a *sub rosa* consent to such measures among the intelligent, is accentuating the results of celibacy. It is allowing the competent, intelligent leaders to have few children and to fail to reproduce themselves, whereas it obliges the common people to multiply like rabbits. What will be the outcome of all this? Will the Roman Catholic church go to pieces for lack of leadership? Will our civilization go backward because the fundamentalist type of thinker has many children and the liberal type few?

It seems to us that unless some great social change occurs in the near future, both of these things are likely to take place, but only temporarily. A church so well organized as the Catholic will doubtless see the light. A system so extreme as modern fundamentalism almost invariably creates a strong reaction. In the case of Puritanism, which is more or less parallel to fundamentalism in certain ways, one phase of the reaction took the form of a complete break with religion. Weak-willed people who did no real thinking for themselves, took advantage of the break as an excuse for disregarding old moral inhibitions. Their conduct helped to bring about the present widespread tendency toward disrespect for marriage and law, and toward the breaking down of the home. Such conditions lead to small families, and hence are self-destructive. The people who shake off fundamentalism in that fashion are almost certain to die out. Among another type of people, the reaction against Puritanism took the form of the liberalizing movement known as Unitarianism. This has now leavened the

whole lump of the Congregational church until that sect is one of the most liberal, even though it is the direct descendant of the Puritans.

If the future repeats the past, fundamentalism may triumph for a while, because it is biologically strong, yet in its very hour of triumph it may begin to change even more rapidly than Puritanism changed, as befits the present celerity of the processes of evolution. The irreligious descendants of the present Fundamentalists, like others of their kind, will doubtless have few descendants because of their desire for self-gratification and self-expressionism. In all probability, the most ardent believers in fundamentalism will likewise endanger their own chances of survival by refusing to accept scientific ideas as to bacterial pollution, antisepsis, sanitation, and other modern practices. The residue will presumably consist mainly of people who are perhaps excessively religious according to the standards that are most widely heralded just now, but who are nevertheless free from bigotry and intolerance. They are the kind who can be swayed toward liberal beliefs as happened among the descendants of the Puritans. Yet if the religious spirit remains highly developed, they presumably will have a much better chance of survival than will those in whom it is weak. The relation of religion to biological survival seems clear. The main question is the type of religious faith which stands the best chance of survival. From the evidence here given and from much of other kinds which cannot here be stated, it looks to us as though that type were not exemplified by the extremists, but by those who are religious though not dogmatic—zealous and earnest but also liberal and tolerant. People of this sort, rather than extremists, are likely to leave children who follow in their footsteps. Hence our conclusion is that in the long run the dictates of biology will cause a very earnest yet liberal type of religion to prevail.

The idea that religion increases the numbers of a population is by no means new. In his famous book, *Christian Nur-*

ture, published in 1888, Horace Bushnell has a chapter called "The Out-populating Power of the Christian Stock." Here is what he says about it: "Christianity then has a power . . . to become the great populating motherhood of the world. . . . The populating power of any race or stock is increased according to the degree of personal and religious character to which it has attained. Good principles and habits, intellectual culture, domestic virtue, industry, order, law, faith—all these go immediately to enhance the rate and capacity of population. They make a race powerful, not in the mere military sense, but in one that, by century-long reaches of populating force, lives down silently every mere martial competitor. Any people that is physiologically advanced in culture, though it be only in a degree, beyond another which is mingled with it on strictly equal terms, is sure to live down and finally live out its inferior. Nothing can save the inferior race but a ready and pliant assimilation."

From arguments like this, Bushnell concludes that in the long run Christianity, as the highest type of religion, will conquer the world. It will not do so by conversion alone, but because the most religious people everywhere will have the greatest number of descendants. He does not scientifically demonstrate the "out-populating power of the Christian stock"; that, to our great surprise, has been reserved for us, although we had no more than a suspicion that such would be the case when we began. Yet the facts before us make it hard to avoid the conclusion that in the long, long run the highest type of religion, whatever it may be, will survive and overrun the world, because it will have the maximum biological power of survival. We do not believe that this will happen in a few generations or even a few centuries. It will doubtless take thousands and perhaps tens of thousands of years, yet that is the direction in which the world is headed. That way lies the millennium if ever there is to be any.

CHAPTER XV

THE BEST COLLEGE STUDENTS

COLLEGE men and women probably represent the Builders of America more perfectly than does any other large and well-defined group of people. Among college graduates, those of Yale and Harvard, although a somewhat selected type, probably represent the whole group fairly well. Do any particular regions, occupations, or types of families furnish Harvard and Yale with especially valuable students, or the reverse? Do the most successful and valuable graduates come from large families or small? Do they have many children or few?

In order to answer these questions we have studied 700 graduates of Yale College in the classes of 1893, 1896, and 1898; and 1,700 from 1922-1926; while 1,900 graduates of Harvard in the classes of 1899, 1900, and 1901 have been jointly studied by Dr. J. C. Phillips and ourselves. Probably all the men of the earlier classes have found their permanent place in the world and most of them have completed their families. The first step in studying these classes was to find a measure of their value to society. For this purpose the following letter was sent to about ten men in each of the three earlier Yale classes, the men being chosen partly on the basis of personal acquaintance and partly because of their full and accurate knowledge of their classmates:

"I am studying the relation between the success of Yale students while in college and the background from which they come. The first step is to give each student a rating based on (1) his academic record; (2) his extra-curricular achievements; (3) his reputation as shown by the vote of his class; and (4) his earnings as recorded by the Bureau of Appointments.

"In order to get the full value out of this study, it seems advisable to use not only the most recent classes, but earlier ones who have been out of college long enough so that we can compare their success in life with their success as students. For this purpose I have chosen the classes of 1893, 1896, and 1898. I propose to investigate the college records of these classes in the same way as those of the recent classes, except that no data as to earnings are available. In addition I hope to grade each class according to achievements since graduation. Are you willing to help in this?

"If you can coöperate, I suggest that on the enclosed list you give each of your classmates a rating on the scale of 1 to 5 according to their success in the deeper sense of the word—that is, their success in making themselves useful and valuable members of society; men whose achievements render the world a better place in which to live.

"The easiest way is probably to run through the list and mark the figure 1 beside the names of all whom at first thought you are inclined to include in the most successful fifth of the class. Count how many you have indicated, and then revise the list until approximately a fifth are included in your first group. Then do the same for the second grade, and so on.

"Men who died soon after graduation have been omitted on the enclosed list. Please grade all others if possible. If by chance there are any men as to whose careers you feel wholly incompetent to express an opinion, simply cross off their names. But if you do this, please correspondingly reduce the number in each of the five groups.

"(Signed) ELLSWORTH HUNTINGTON."

Nine men from the class of 1893 graded their classmates in accordance with this letter, seven from 1896, and five from 1898. The Harvard ratings were made by Doctor Phillips in a slightly different way through personal conferences with men well acquainted with the chosen classes, but the general principle is the same. Most of our collaborators protested that

they had little faith in their own ratings. Here is a typical letter from an eminent lawyer which illustrates this point and also indicates the careful way in which the grading was done.

"In approaching this problem I first went over the list carefully and eliminated the names of the men whom I felt I could not classify fairly by reason of the fact that my information was insufficient. The balance of the members of the class I have now classified in five lists, which are complete, but the classifications into which the lists have been divided are not exactly equal in number.

"A careful study of the names and their records so far as I know them, certainly brings four matters very forcibly to my mind. First, one realizes how insufficient are the data on which to do this work; second, there are few of the class whose contributions to their time have been appreciable in extent; third, the influence of early death or continued illness is emphasized; and fourth, the use of liquor in too generous quantities has resulted in placing a very substantial number of men in Class "E" who otherwise, one might think, would have been in one of the higher classes."

The more these ratings of Yale and Harvard graduates have been studied by Doctor Phillips and ourselves, the more convinced we are that when a number of well-informed men conscientiously estimate the success of their classmates, the combined results approximate closely to the truth. We have been much impressed by the way in which our collaborators have again and again taken pains to say that mere money-making was not their criterion of success. Here is a country minister, not a brilliant man, but evidently overflowing with the spirit of whole-hearted service. He is given the highest rating by practically all his classmates. Here is another, handicapped by his origin, not intellectually brilliant, not widely known, but given high rank because his classmates believe that he has made an unusually vigorous and successful effort to use his relatively moderate talents. Another is brilliant, highly suc-

cessful according to popular standards, and the holder of positions which always carry weight, but several of his classmates doubt whether they ought to put him in the first grade because they believe that he is fundamentally selfish. We could cite case after case where it is clear that character is the factor which the men who graded their classmates have had in mind above everything else. But intellectual ability, vigor, and the power of leadership have also played an important part. So, then, although the final rank given to each man may not be the same as that given by the recording angel, we believe that little injustice has been done. This is especially true of the most successful and the least successful graduates. The general opinion as to how such men should be rated is usually almost unanimous. It is the "average" man to whom his classmates find difficulty in assigning a definite rank.

Having rated our men according to their success in life, we at once begin to wonder how these ratings compare with the men's records in college. Four kinds of college records are available:—rank in studies, participation in athletics, participation in other extra-curricular activities, and votes of the classes in senior year. For the Yale classes the rank in athletics and other extra-curricular activities has been obtained from the class books, which tell what each member of the class has done in athletics, debating, drama, music, college publications, religious, social or philanthropic work, and student discipline organizations. In any or all of these activities a man may make any score from zero to three each year. If he goes out for football or some other sport, if he belongs to a debating, dramatic, or musical organization, if he "heels" the *News* or some other publication, or if he is active in the Y. M. C. A. or a social settlement, he gets a credit of one each year. If he becomes a member of a college team, an intercollegiate debater, an actor in a play, a special performer in a musical club, an editor, or chairman of a religious or

philanthropic committee, his credit is increased to two. If he gains a higher position, such as captain, manager, editor-in-chief, leader, general chairman and the like, another point is added, making three; but note that the managers of athletic teams are not given credit under athletics. Such work belongs to the other types of extra-curricular activity. Only in the student discipline organization can a man make more than three points per year. Since the students elect none but their best to that body, an ordinary member gets two points per year, and the chairman four. In spite of the great variety of activities outside the classroom, especially in recent years, many students go through college with a rank of zero both in athletics and in other activities.

The senior votes are a curious old custom which still hangs on at Yale, although the classes are now too large for it. The fact that at the end of senior year a few hundred men vote that Jones is the hardest worker, or the most likely to succeed, Van Buster the most popular or original, and Bings the most typical Yalensian and most to be admired, has a real significance. There is also some significance, although not so much, in the fact that Pugsley is the most humorous, Hankins the most polite, and Spiggott the most modest. So we have given half weight to such votes. But we confess that even our tolerant spirit does not deem it worth while to give much credit to the best dresser or even to the most handsome man of the class.*

The way in which the college activities compare with success in life is illustrated in Figure 5. There each of the ten letters from A to J stands for a group of approximately 69 men, or one-tenth of the men of native white American parentage who graduated from Yale in 1893, 1896, and 1898. Group A is the tenth who have succeeded best in life according to their

* In order to avoid giving undue weight to the fact that some men get hundreds of votes we have graded the votes on a scale of one to six, the man who gets one or two being given a credit of one, the man who gets three to five a credit of two; six to 12 a credit of three; 13 to 25, four; 25 to 100, five; and over 100, six.

classmates, Group B those who are next in success, Group J the least successful. Their degree of success is represented by the upper line in the diagram. The upper tenth get a rating
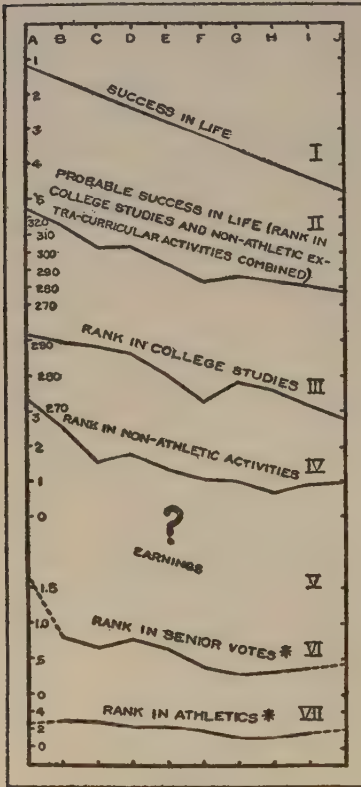
FIGURE 5.   SUCCESS IN LIFE COM-
PARED WITH SUCCESS IN COL-
LEGE.   YALE COLLEGE CLASSES
OF 1893, 1896 AND 1898.
(692 MEN.)
* Moving averages of three groups.
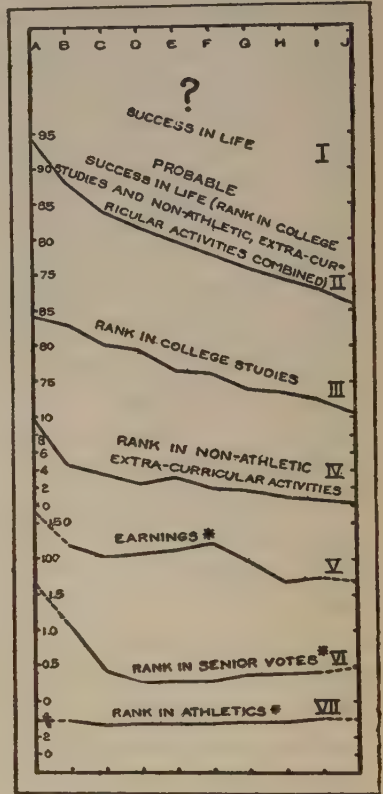
FIGURE 6.   RANK IN COLLEGE AC-
TIVITIES AS A MEANS OF PRE-
DICTING   SUCCESS   IN   LIFE.
YALE COLLEGE CLASS OF 1926.

which averages only a little below 1.0, the lowest tenth a rating not much better than 5.0. If any kind of college activity is a real forecast of success in life, the line for that activity ought to slope downward from left to right parallel to the top line in Figure 5. How far is this true?

The line for athletics at the bottom of Figure 5 is not at all like the line for success in life. The 69 men who have been most successful in later life took their full share in athletics, to be sure, but the tenths of the class who rank second and third in life did still better. Some men from each of these tenths, and from each of the others for that matter, were athletic stars, while others never took part in athletics at all. On the whole there were more good athletes among the men who were destined to be successful after leaving college than among the others. That is why the lower line in Figure 5 falls off quite steadily till the seventh group is reached. Then among the unsuccessful men the athletic line begins to come up. That is because certain men come to college primarily for athletics, as every one knows. They often make fine athletic records, but fail otherwise. It is most interesting to see that in the nineties the men who were to succeed best in life and the men who were to be the least successful vied with each other in athletics. The future leaders won in that respect, as in others. Nevertheless, athletic activity at Yale in the nineties was a poor indication as to future success.

Athletics are a still poorer indication of success to-day. This is partly because the number of non-athletic activities has greatly increased, thus offering a wider choice to the able and ambitious student. Another reason is that athletics do not seem to attract brainy men so much now as formerly because the coaches do most of the brainwork. President Lowell of Harvard set forth this last conclusion some years ago on the basis of a study of the relation of athletic success to inclusion in *Who's Who*. But anyhow, whatever the cause, it seems quite clear that a man's athletic record in college has very little relation to his success later in life.

The votes of one's classmates at the end of senior year are better than athletics in this respect, but not very good. The curve for senior votes in Figure 5 stands high on the left,

which means that the students show considerable success in picking out the men who are most likely to succeed. If we had enough men, say 1,000 instead of 69 in each of our groups, the curve for votes would probably decline regularly from a maximum in the group who succeed best in life to a minimum in Groups F and G a little below the middle of the class. Then, however, the curve would doubtless tend to rise, as it does in Figure 5, for the unthinking senior often supposes that success in athletics betokens success in life. For that reason, and also because mere charm of manner has undue weight, the senior votes are only a moderate indication of future success.

Are non-athletic activities outside the regular curriculum any better in this respect? They seem to be, for their curve in Figure 5 declines quite regularly from left to right. The only important disagreement between success in life and in non-athletic college activities arises from the fact that such activities are largely concentrated among men who rank in the more successful half so far as their life work is concerned. This is especially true of the men in the most successful two-tenths of each class. They rank especially high in extra-curricular activities not because of the time devoted to them, but because the more brainy men capture most of the positions which bring much credit, such as managerships, chairmanships and the like.

College studies are even better than non-athletic activities as a measure of success in life. Except for an accidental jog, the line showing rank in studies in Figure 5 declines quite regularly from left to right. The jog illustrates a point which must never be lost sight of. Individual students may, and actually do, depart far from the conditions indicated in our curves. Thus a man who does well in his studies is sometimes a complete failure in life; a man may even stand at the head of his class, be a notable leader in extra-curricular activities, both athletic and non-athletic, and be so popular that he gets

many votes in senior year, and yet he may be a failure later in life. On the contrary, another man, who seems to be merely a dull plodder with no share in college life outside the classroom and with only poor grades there, may turn out highly successful. But such cases are the rare exception, not the rule.

What our curves indicate is that taking a group of college students as a whole, it is safe to say that *on an average* their success in life will show little relation to their athletic records; it will show some relation to the esteem in which they are held by their classmates as indicated by senior votes; it will show a fairly close relation to the part that they take in non-athletic activities outside the regular curriculum; and it will show a high relationship to their stand in their studies. If we combine studies and non-athletic activities, giving to each equal weight, we obtain a figure which still more closely measures final success in the work of the world, as appears in the next to the top line (II) of Figure 5. Pick a good student who also is active outside the classroom and the chances are probably eight out of ten that you have picked a man who will succeed in his life work; pick a poor student who takes no part in any outside activities except athletics, and the chances are equally great that he will achieve relatively little.

How about recent classes? Can we predict their success on the basis of their college records? The answer has already been given, but Figure 6 helps to make the matter clear. It is based on 383 graduates in the Yale College class of 1926. Here, contrary to our usual custom, we have included not only the men of native white parentage, but those of foreign parentage, regardless of whether they were born in America or abroad, but this makes no appreciable difference. Of course it is as yet impossible to give these recent alumni any rating as to success in their life work. Accordingly the top curve (II) in Figure 6 corresponds to the second curve (II) in the diagram beside it, and is based on classroom rank and non-

athletic activities outside the classroom. It slopes regularly from left to right because we have divided the class into 10 groups according to the future success that we should expect on this basis.

The other curves are based on these same 10 groups. In essential respects they resemble the corresponding curves for the earlier classes as shown in Figure 5. Thus the curve for rank in the classroom is almost a straight line. That for non-athletic activities assumes practically the same form as in the diagram for the classes a generation earlier. Next we have a new curve based on earnings during term-time as compiled by the Yale Bureau of Appointments. Unfortunately this is the only class for which such data are at all complete, which is the reason why in this diagram we have used only a single class. The curve of earnings is highly significant because it slopes in the same way as the curve of non-athletic activities. Here, again, if we had more data, it is almost certain that the little irregularities would disappear, and we should find that *on an average* the earnings of college men vary closely in proportion to their rank in their studies and almost directly in proportion to their activity in other respects aside from athletics.

Of course many a man who is not only brilliant but industrious never earns a cent while in college, because his father is rich, and he feels that the profitable jobs should not be usurped by men who do not need them. A poor minister's son of equal ability earns two thousand dollars a year. The relatively dull student may likewise earn nothing if he is the son of a rich man, but the equally dull poor man's son is not likely to earn over three or four hundred a year. He may work more hours or less than the exceptionally brilliant men, but he is paid less per hour. Moreover, the more brilliant a man is the more quickly he finishes not only his classroom work but his extra-curricular activities aside from athletics, and the more time he has to earn money. Thus the money

earned in college indicates not only a man's ability to earn, but his ability to succeed in other lines. If all the men in college had to earn their livings, their earnings might rival their classroom rank as an indication of probable success later in life. In fact their earnings in college would be a far better indication of success than are their later earnings? Why? Simply because the man who earns the most in college may become a poor professor or minister, or even a missionary who never in his life will have as much money as he had in college. The man who earns only a pittance in college may become a stockbroker; a pleasant manner and reasonable intelligence in playing the market may make him a multimillionaire. The classes that we are dealing with show examples of just this sort of thing. But in college all the students are engaged in the same occupation, so to speak, and look for the jobs where they can earn the most. Thus their earnings depend largely on their ability, whereas in later life many men who might earn large sums deliberately throw up the chance and devote themselves to some underpaid occupation that they love, or in which they think that they can be useful.

To come back now to Figure 6, the curve for rank in senior votes is closely similar to the corresponding curve for the classes a generation earlier. The men who will probably succeed most brilliantly are fairly obvious to their fellow-students. They get most of the votes. But the students are so apt to be deceived by athletic prowess that they give an unduly large vote to men who are likely to have little success.

Perhaps the most impressive of all the facts brought out in Figure 6 is that there is practically no difference in the athletic records of the men who give most and least promise of being successful. Athletics, as we have said, do not now seem to be a selective agency for either brilliancy or stupidity, for the coaches do the thinking. But athletics still attract active, energetic men, no matter whether those men are brilliant or dull. Thus the levelness of the curve at the bottom of Figure

6 merely means that fine athletes and men of no athletic ability
are found indiscriminately among the students who are most
likely to suceed and among those who are least likely.

Now that we have a clear idea of how success in life is re-
lated to success in college, let us see whether the men from
any special geographical environment are more likely than
others to succeed. We will divide our Harvard and Yale
graduates of a generation ago, and our more recent Yale
graduates into those whose boyhood was spent in big cities
or their suburbs, those who came from the smaller cities and
villages of the northeastern states from New England to the
Mississippi River, and those from the West and South. Among
the graduates of both colleges, the men from the great cities
east of the Mississippi and north of the Ohio and Potomac
Rivers are appreciably less successful than are those from the
smaller places, as appears in the upper two lines of the follow-
ing data, where a high number means poor success:

Success or Probable Success in Life Among College Graduates
Compared with Boyhood Home

	YALE 1893, 1896, 1898		HARVARD 1900, 1901 *		YALE 1922—1926	Probable
	Cases	Success	Cases	Success	Cases	Success
Large cities	246	3.02	488	3.03	584	2.99
Smaller places in Northeast	303	2.87	545	2.93	646	2.87
South and West	67	3.03	118	2.74	262	3.06

* Add 1899.

Those from the South and West, on the other hand, are
less successful than the others at Yale and more successful at
Harvard. Perhaps this means that Harvard succeeds better
than Yale in attracting high-grade men from a distance. The
superiority of the boys from the smaller places over those from
the great cities probably means a real and important differ-
ence which pertains not only to Harvard and Yale, but pre-
sumably to all colleges.

The great cities certainly attract to themselves many of the

most able people from the smaller cities as well as from the rural districts. Why, then, should they send less able students to college? The fact that many of the students from the large cities are of foreign origin does not enter into the matter, for all foreign-born students have been omitted, while in the later Yale classes those of foreign parentage are also omitted even though born in this country. We doubt whether wealth has much to do with it either, unless it be that the rank of the great cities is lowered by the fact that they send to Harvard and Yale not only the richest but also the poorest students. Perhaps the city environment injures both rich and poor so much that they average lower than the men from smaller places. We doubt, however, whether either wealth or the city environment are at the root of the matter. We are inclined to think that the difference lies in the selective action which turns one type of man to one profession and a different type to some other. The professions which send the most successful sons into the world, as we shall soon see, are not the richest professions, nor the distinctively city professions. The trouble with the big cities compared with the smaller places is probably that while they attract great numbers of able men, they attract an unduly large proportion of the self-seeking type, whose main desire is wealth. Such men's sons do not succeed so well as those of the less selfish types.

Another phase of the matter may be still more significant. The college men who are connected with any given city may be divided into three types; first, those who grow up in the city and then move elsewhere after completing their education; second, those who grow up in the city and return there permanently after completing their education; and third, those who grew up somewhere else, but came to the city when they entered upon their life work. Would you expect to find any difference in the success of these three types? Let us test the matter by means of New York City, Boston, New Haven, which, though relatively small, counts as a big city in the num-

ber of men that it sends to Yale, and a group of other great cities including Philadelphia, Pittsburgh, Baltimore, Washington, Buffalo, Cleveland, Detroit and Chicago, which are put together because they send only a few men to Harvard and Yale. Here are the facts for the classes of a generation ago at both Yale and Harvard:

| | YALE | | HARVARD | |
	Number of Men	Average Success	Number of Men	Average Success
Men who grew up in specified city but settled elsewhere	88	3.13	185	2.96
Men who grew up in specified city and settled there	124	2.98	96	2.91
Men who grew up elsewhere but settled in specified city	177	2.86	227	2.83

In the columns headed "Average Success" a low number means a high degree of success, 1.0 being the highest possible. The fact that the Yale numbers exceed those of Harvard is a mere accident, due to diverse methods of obtaining the original data. Notice how the numbers decline in the same way for both Yale and Harvard. If New York, New Haven, and a group composed of the remaining large cities are taken separately, they show the same arrangement for Yale, although there is some irregularity for Harvard. Such uniformity makes it practically certain that the college men who grow up in a big city but move away contain a relatively high percentage who are unsuccessful; those who grow up in a big city and stay there comprise fewer of that kind; while those who grow up in smaller places but move to a big city include still fewer, and are on the whole appreciably the most successful of the three groups. This is extraordinary. It means not only that the cities attract an especially successful set of men from other places, but that those whom they send out to other regions, aside from their own suburbs, are a less successful set. The city thus reaps an advantage both ways: it not only selects but rejects. It takes more than its share of cream from

the rest of the country, and pours back some of its skimmed milk.

If the great cities draw into their maws so many able men and send away many who are less able, do not the laws of heredity demand that the sons of the city should be the best material that comes to college? Perhaps this would be the case if it were not for the sterilizing power of the city. The leaders in the largest cities, it will be remembered, have fewer children than have the men of equal ability who remain in the smaller places. The self-seeking man, no matter how able he may be, is also less likely to have children than is the one who is more altruistic, and his children are not so likely to be successful. But the self-seeking type is especially attracted cityward. In addition to all this the growth of the college habit inevitably lowers the level of the average family from which college students are derived. Perhaps that habit is growing faster in the big cities than elsewhere, but we are not sure. What we are sure of is that the selective power of great cities seems to work harm in a great many ways. Many of the best college students undoubtedly come from the cities; a still larger proportion go there for their life work. But the general tendency of great cities seems to be decidedly in the direction of lowering the average level of the population both within and without their borders. What of the future when people may become still more concentrated in a few cities of colossal size?

CHAPTER XVI

THE SELECTIVE ACTION OF OCCUPATIONS AND EDUCATION

NOTHING is more vital to most people than their occupation. A woman may center her life completely in her home and family; a man, no matter how dearly he may love his home, almost invariably makes his profession or business his main center. This does not mean any real contrast between men and women. It simply means that the *occupation* to which each devotes most time is the thing around which life mainly centers. Because our occupations control the most vital of all our dealings with the world, they are probably more potent than almost any other factor in separating people into distinct groups marked by certain aptitudes, abilities, and kinds of temperament.

The selection exerted by occupations upon college students is illustrated in Figure 7. In each of the four diagrams of that figure the chief occupations in which college graduates engage are arranged in the same order. That order is determined by the so-called weighted average of the four sets of facts illustrated in the diagrams now before us. The most significant fact about the diagrams is that in a general way all four show the same pronounced tendency to slope from left to right. In other words, no matter whether we use Harvard or Yale and no matter whether we judge a profession by its members who graduated from college 25 or 30 years ago or by students whose fathers belong to that profession, the relative rank is much the same.

Look at the individual diagrams. The first, labeled A, shows the average degree of success attained since leaving college

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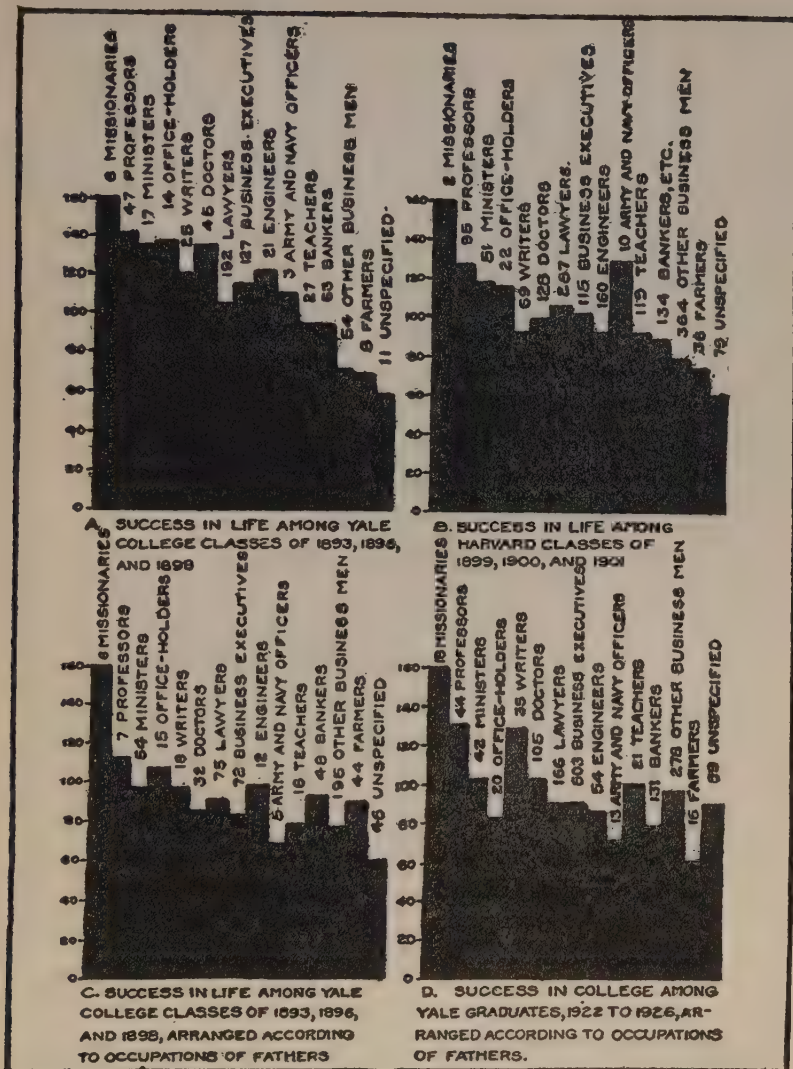
FIGURE 7. RANK OF OCCUPATIONS AMONG YALE AND HARVARD GRADUATES.

by graduates of Yale College in the classes of 1893, 1896, and 1898, according to the votes of their classmates. Missionaries obtain the highest average. Two of the six included in these classes get ratings of 1.0; a rank attained by only one man in 28 among their classmates. Three others get 2.0 or better, which means that they belong in the most successful quarter of their classes. Only one, with a rating of 3.5, falls distinctly low, but even he is only a little below the average. Thus the missionaries as a whole rank very high, their average being 1.80.* In the same way the 47 professors range all the way from three who fall in the first grade in the opinion of all their classmates and thus get a rating of 1.0, down to one who falls among the lowest 20 per cent. Almost exactly half of the professors are rated by their classmates as belonging to the first fifth of their classes. Evidently the professors as a whole, with an average of 2.22, are regarded as highly successful, although not quite equal to the missionaries. The 25 editors and authors who come next include only two men with a rank of 1.0, but nine fall in the first fifth of the class and only four in the lowest fifth. Their average of 2.70 is distinctly above that of the class as a whole. Nevertheless, it is not so good as that of the 14 office-holders (2.30), the 45 doctors (2.31), and the 17 ministers (2.34). At the other extreme come the 27 teachers who are not college professors (3.29), the bankers and brokers who stand on a par with the teachers, and the business men who have failed to achieve executive positions (3.82). The lowest places of all are held by the farmers (3.86) and by the men who have no specified occupation (4.09). Such men are often handicapped by poor health or too much wealth.

The next diagram in Figure 7 is like the one just described

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* In Figure 7 a different scale is used in order to make it possible to compare the four criteria there used. The highest group, according to each criterion is ranked as 160, the lowest as 60, while zero is supposed to be the lowest limit for any single individual. Thus the rankings for success as given in the text seem different from those in the diagram, but really indicate the same thing. See Table 12 in Appendix.

except that it represents Doctor Phillips' gradings of 1,900
Harvard graduates of the classes of 1899, 1900 and 1901.
There are only two missionaries in these classes, but both get
very high ratings, giving them an average of 1.5. The pro-
fessors come next, 2.2, then the ministers, 2.4. In this case
the ten army and navy officers almost rival the ministers,
but so high a rank for them is unusual. The writers, on the
other hand, rank unusually low. Such irregularities are in-
evitable where we deal with relatively small numbers of men.
Nevertheless, the general tendency is for the same occupations
to be successful among Harvard graduates as among those of
Yale. The business men who are not executives, the bankers,
the farmers, and the men with no specified occupation bring
up the rear in both cases.

Since our purpose is to find out which kinds of families are
most valuable, we ought to measure the professions not only
by the success of the men who actually belong to them, but by
that of the sons of such men. This is done in parts C and D
of Figure 7. Diagram C uses the same men as Diagram A,
but classifies them according to the occupations of their fa-
thers instead of their own occupations. Here again mission-
aries head the procession. One of the six sons of missionaries
in the classes of 1893, 1896, and 1898 has a rank of 1.0, while
the lowest falls only to 2.8 and is therefore above the average
of the class. The average for all six is 1.9, or practically the
same as that of the men who themselves became missionaries.
But are we not studying the same men twice? Do not the
sons of missionaries follow their fathers' profession? Some-
times, but not any oftener than in other professions. In the
present case one of the six missionaries is the son of a mis-
sionary; the others are sons of a professor, a minister, a doc-
tor, a banker and a business man. The seven sons of pro-
fessors in our classes that graduated during the nineties, like
the men who actually became professors, rank next after the

missionaries. Three of them fall in the first fifth of their classes, and only one in the lowest fifth. The 15 sons of office-holders come next, just as was the case among the men who themselves are office-holders. Then come the 18 sons of
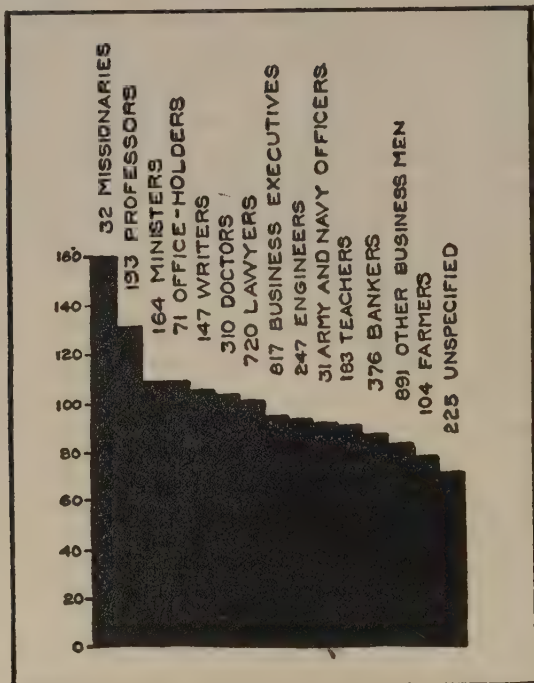
FIGURE 8. OCCUPATIONS AND SUCCESS.

editors, authors and journalists, and the 54 sons of ministers. Near the bottom, as usual, come the sons of farmers and of business men who are not in executive positions.

In the fourth diagram we again find that the 18 sons of missionaries in the Yale College classes of 1922 to 1926 decidedly surpass every other group when rated according to their probable success in life as determined by their class-

room rank and their non-athletic activities outside the class-room. The sons of professors come second, and those of liter-ary men third. The significant point is that although the rela-tive rank of the different occupations varies somewhat from diagram to diagram, the missionaries or their sons invariably stand at the top, and the professors and their sons second; while the business groups, especially the bankers and brokers, and the farmers, regularly drop well toward the bottom. Even though some of our occupational groups, like the missionaries, are very small, we may be sure that if they uniformly hold practically the same position they owe that position to some genuine and far-reaching cause.

Turn now to Figure 8, where the four diagrams of the pre-ceding figure have been combined so that each individual re-ceives the same weight. Note how the character of the occu-pations changes from the most successful on the left to the least successful on the right. The list begins with the highly idealistic or intellectual professions of the missionary, profes-sor, minister and writer (Group A). It then passes to an in-termediate group of officials, doctors, lawyers, engineers, busi-ness executives, teachers, and military officers (Group B) whose main function is to *apply* knowledge to concrete situa-tions. It ends with the most practical, least intellectual, and most self-centered occupations—those of the business man who is not an executive, the banker, the farmer, and the seeker for health and pleasure who has no specified occupation (Group C).

The distinction between these three groups applies not only to the men actually engaged in each type of profession, but to the sons of such men. Moreover, the sons from each group sort themselves out in such a way that no matter what the occupations of the fathers, the more able sons have an espe-cially strong tendency to enter the idealistic and intellectual professions of Group A, while the least able have an especial

tendency to enter the more practical and self-centered occupations of Group C. Nevertheless, the sons of men engaged in the more altruistic and intellectual professions tend to excel the sons of men of the other types, no matter what occupations they choose, as appears in the following table:

YALE COLLEGE, CLASSES OF 1893, 1896, AND 1898

Success in Life Compared with Occupations of Fathers and Sons

	Occupation of Fathers					
	A		*B*		*C*	
Occupations of Sons	*Missionaries, Ministers, Professors, Writers*		*Officials, Doctors, Engineers, Lawyers, Business Executives, Teachers, etc.*		*Business Men, Farmers, Unspecified*	
	Number	*Success*	*Number*	*Success*	*Number*	*Success*
A) Missionaries, etc.	27	2.1	23	2.6	47	2.5
B) Officials, etc.	55	2.9	147	2.8	235	3.0
C) Business men, etc.	10	3.4	38	3.7	94	3.6

The left-hand section of the table shows the success of 92 sons of missionaries, professors, ministers and writers. Nearly a third of them entered one or another of these same professions and were highly successful, as appears from their average rank of 2.1. More than half went into the applied group of professions, including medicine, engineering, law, politics, executive business, teaching (aside from college teaching), and the army or navy. They were much less successful than the preceding group, for their average of 2.9 is close to the general average. The remaining 10 sons of the intellectual and altruistic group occupy minor business positions, or have no definite occupation. An average of 3.4 shows that they have been decidedly less successful than those who went into the applied professions. In other words, there appears to have been a distinct sorting of these men so that the ones who possessed the qualities that make for success were most likely to enter the intellectual and altruistic professions, less likely to enter the applied professions, and least likely to go into business.

The second and third sections of the table indicate that al-

most the same thing happened among the sons of fathers
engaged in the applied professions (B) and in the minor types
of business (C). The intellectual and altruistic professions
not only attract an unusually large proportion of high-grade
men from families of all occupational groups, but send into
the other professions a set of sons who somewhat excel those
supplied by other types of families. All these circumstances
seem to show that a selective process is constantly and actively
at work causing a marked difference in the innate caliber of
the various professions. The more altruistic or intellectual
the profession, the more likely it is to attract the highest type
of men, and the more likely are its sons to attain success no
matter what occupations they enter.

But may not all this apparent advantage of the intellectual
and altruistic professions arise partly from the fact that men
in those professions had the major hand in rating the success
of their classmates? We do not think so. The men who
rated the success of their classmates are as impartial a set
as can well be chosen. They are regarded very highly
by their classmates, as appears from the fact that their aver-
age rating for success is 1.5, while nine of the 23 fall in the
first three per cent of their classes, and practically all in the
upper fifth. Moreover, the intellectual and altruistic group
do not predominate, being represented by eight professors and
one minister, whereas the middle group is represented by five
lawyers and four business executives. The third group is rep-
resented by only three bankers or brokers, but one of these
is said by his classmates to have such an intimate and accu-
rate knowledge of his whole class that we have given his
ratings three times as much weight as those of any one else.
These three bankers, be it noted, have a higher average rat-
ing than the nine men in either of our other groups of collabo-
rators, which shows that bankers and brokers as a whole do
not rank low for lack of very able men, but because their

profession attracts a good many men who fail in other lines, or who are especially fond of money. In our final results the middle or applied group of occupations receives exactly the same weight as the intellectual group, while the lower business group gets a little more than half as much. But this makes no essential difference, for when the votes of each group are taken by themselves the final results are practically identical.

In addition to all this, no amount of professional bias would cause our collaborators to alter their ratings by reason of the occupations of the fathers of their classmates. Nine times out of ten they do not remember what the fathers did, if indeed they ever knew. Yet the various occupations achieve essentially the same relative standing no matter whether we group the graduates according to their own occupations or those of their fathers. Hence we cannot escape the conviction that the various professions exercise a very strong and steady influence in choosing distinct types of mind and temperament, and that the types thus sorted out tend to preserve themselves from generation to generation except as they are obliterated by marriage between one type and another.

In this whole discussion it must be constantly remembered that we are dealing with averages. Every occupational group contains some men of high ability and some of low. The difference arises from the percentage of each kind. The main significance of the whole thing lies in the clearness with which it demonstrates that the achievements of the individual are very closely connected with the selective processes by which his ancestors have been sifted out. It is a fairly safe bet that a large majority of the men whose ancestors for three or four generations have been missionaries, professors and ministers will be successful. It is an equally safe bet that an average group of men whose ancestors have been farmers, mechanics, or minor business men will not contain anywhere nearly so large a proportion of highly successful types as will the

descendants of missionaries, ministers, literary lights and professors. This is no new conclusion. We set it forth simply because we have reached it by a new road. But let no man think that by choosing to be a missionary instead of a publisher, or a professor instead of a banker he will do much to insure success for his children. No, the thing that counts is the innate quality of the parents, and the kind of home which results from that innate quality. The characteristics which lead men and women to devote themselves to mission work will help the children just as much if the parents decide with equal conscientiousness that their duty lies in a factory.

In order to understand this matter more clearly, let us inquire why the sons of missionaries so consistently rank high. The great general reason, as we have seen, is that missionaries are selected by very rigorous criteria. In the first place the missionaries of practically all the more intellectual denominations must be well educated, which means that they must have good minds to start with. Next they must be deeply religious. Third, they must be so altruistic that they are willing to make great sacrifices. Fourth, they must have the spirit of adventure, the pioneering spirit, or the spirit of curiosity which makes them eager to go to the remote parts of the earth. A fifth type of selection arises from the necessity for moral courage, and for the kind of strength that resists the attractions of life in America with all its opportunities for fame, wealth, and pleasure. It requires a real struggle for the great majority of missionaries to resign themselves to life in some lonely corner where no one but God knows much about their struggles and their successes. Physical as well as moral courage is a sixth quality which acts as a selective factor. The person who is physically timid, or at least who yields to physical timidity, rarely gets to a mission field. It takes the finest kind of courage to proceed quietly with one's work when a Boxer uprising or the savage anger of cannibals may endanger one's life at any moment. Still another selection arises

from the fact that only people of good health and sound constitution are allowed to go to the mission field. Moreover, when once they are there the poor health of any member of the family, including the children, may send them home. Thus missionaries are selected because of intellectual ability, religious earnestness, altruism, the spirit of adventure, moral courage, physical courage and health. But the most important point of all is that among missionaries, as in no other profession, the *same rigorous selective processes apply to both fathers and mothers*. Selection on both sides of the family seems to be the great secret of the success of missionaries and their children. In addition to all this, the missionary child, just because he is a missionary child, is very carefully trained. Is it any wonder, then, that missionaries and the children of missionaries are the most successful of all our occupational groups? Missionaries may be right or wrong—we believe that in the long run they are more right than wrong—but anyway it is quite clear that if a college, a business, or a country wants young people whose chance of true success is at a maximum, it can scarcely find any better material than the children of missionaries. Perhaps this explains why one new member of the great Morgan banking firm is the son of a missionary and another the son of a Methodist minister.

After the missionaries come professors. The occupation of the professor depends upon a selection somewhat like that of the missionaries. Intellectuality, originality, and the power of conveying ideas to other people are indeed the primary selective factors, but industry and the capacity to keep himself at work, even when no one pays any attention to him, are also highly essential. Moreover, the professor must be willing to sacrifice money and many kinds of pleasure for the sake of his work. A pleasing personality, a moral life, and a good wife also enter largely into the matter. In many a university a man who has low standards of conduct finds little chance for promotion. He naturally becomes dissatisfied, and ulti-

mately may leave the teaching profession altogether, and perhaps becomes a real estate agent. The same thing happens to a man who has the wrong kind of wife, whereas a wife who is intellectual and personally attractive is a great factor in preventing many a man from being dropped from a college faculty or from being overlooked when it is time for promotion. The wives of professors, unlike those of missionaries, are not subjected to the same rigid selective processes as their husbands, but they are decidedly important in determining whether a man shall continue to be a college professor or not.

We have not time to comment on all the other professions. Although the position of ministers is highly creditable, it is undoubtedly lower than would have been the case a century ago. That probably means that many of the more intellectual men who would formerly have been ministers are now professors. Nevertheless the decline in the caliber of the ministry is probably not so great as is often supposed. At any rate, among the 17 ministers in our three Yale classes of the nineties, five fall in the first fifth of their classes and only one in the lowest fifth. At Harvard the 51 ministers in the classes of 1899, 1900 and 1901 are rated as only a trifle less successful than the professors. Similar conditions prevail among ministers' sons at Yale both in the nineties of the last century and the twenties of this. One important fact in this connection is that among ministers, only less than among missionaries, and more than among professors, the quality of the wives is a potent factor in determining not only whether a man shall succeed, but whether he shall remain in the profession. As a rule ministers are unusually successful in marrying women of a high type. The minister has a peculiar advantage in this respect; his business throws him into intimate contact with the finest young women in the community. He has a chance to become acquainted with them and to awaken their interest while they are at work instead of merely in social affairs. Moreover ministers appeal to young women partly because women seem

by nature to be more religious than men, and partly because the mere fact that a man is a minister gives both mothers and daughters confidence in his character. Although we have made no exact study of the matter, we believe that ministers' wives average uncommonly high not only in moral character and altruism, but in intellectual ability and personal charm. Those are just the qualities which are most likely to insure success in their children.

Among editors, authors, and other writers there is somewhat the same sort of intellectual selection as among professors. There is, however, less selection on the basis of personality and of strictly moral characteristics. Moreover, there is by no means so much selection among the wives, although in this profession, as in others, the wives in general tend to be of the same type as the husbands.

Office-holders and doctors come next, ranking practically the same as literary men. As a rule, in the later classes at Yale the sons of men engaged in politics rank relatively low, but among the graduates of Yale and Harvard who go into political life, the average degree of success is quite high. Among both politicians and doctors personal characteristics are especially important, just as among ministers. The doctor who has an unpleasant manner is tremendously handicapped, and so is the one whose character is doubtful. Of course, intellectual qualities are valuable to both the politician and the doctor, but they do not count quite so heavily as among professors and authors. The mental tests made during the World War in the United States Army disclose the interesting fact that the income and the intellectuality of doctors have practically no correlation. In other words, the man with a pleasing manner, which inspires hope and confidence, especially if he has skillful hands, is quite as likely to get the big fee as is the man with exceptional mental powers. Neither among literary men, politicians, or doctors do the wives play any such selective rôle as among missionaries, ministers, and professors.

That is, few people are barred from the profession because of the character of their wives. Perhaps that is one reason why the children of these professions by no means have made or are making so high a mark in the world as are those of the three more altruistic or intellectual professions.

Going on down the list we find that lawyers stand a little lower than doctors and office-holders. Then at nearly the same level we find engineers, business executives, teachers, and officers of the Army and Navy. At this point the less successful professions overlap the more successful forms of business. One reason why the men of these professions fall in the lower part of the professional group is that moral and social selection do not throw out the unfit so rigorously as among ministers, for example; nor does the character of the wives play any essential part in keeping a man in his profession. The teachers fall close to the bottom of the professional group because in this case we have really divided a single profession into two parts—the college professors, who stand near the top, and the teachers who are not engaged in college or University work near the bottom. In other words, we have made an intellectual selection between the more competent and the less competent, or at least between the more intellectual and the less intellectual. The case is like that of the ministers, where the missionaries, who are the most earnest and ardent group, have been separated from the rest. The average college graduate who teaches in a school of lower grade than a college probably rivals the average college professor in personal attractiveness and perhaps in ability to teach. Only a minority of such men rival the college professors in intellect. On the other hand, another small minority has failed in some moral quality and therefore has not succeeded in retaining college positions.

The Army and Navy officers bring up the rear of the professional group. This is partly because intellectual qualities play little part in causing a man to choose a military career.

The love of adventure and physical activity are the primary selective factors. Of course some intellectual selection occurs during the process of education, but it is not fundamental as in the case of professors and literary men.

The position of the business executives on a level with the less successful professions is interesting. Just where they stand may be judged from the fact that among the 127 who belong to the classes of 1893, 1896, and 1898 at Yale 26 fall in the first fifth of their classes, but only two are rated at the very top with an average of 1.0. Although the business group contains many able men, the proportion is smaller than in the professions, and far smaller than among missionaries, professors and editors. The other business group, which falls considerably below the Army and Navy officers, consists of men whom we have classified as holders of non-executive business positions. The distinction between this group and the executive business men is not very sharp because oftentimes the occupations are not recorded in such a way that one can determine with certainty whether the position is executive or not. This is especially true among the Harvard graduates whose records are not so full as those of the Yale graduates.

Bankers, brokers and financiers are so numerous among the graduates of both Yale and Harvard that they have been treated separately. Among the 63 bankers in the Yale classes of 1893, 1896, and 1898, six get a rating of practically 1.0, while more than a third fall in the lowest fifth of their classes. One reason for this is that men who fail in other professions frequently become stock brokers. This happens sometimes among professors, doctors and ministers who fall below the moral standards of their professions, or whose wives make them undesirable in colleges or churches. The fact that a man's moral record and home life have so little effect in determining whether he shall be a banker, broker, or other financial agent, and so great an effect in the case of missionaries, professors, and ministers, affords an impressive example of

the vigor with which the selective process tends to concentrate certain types of character in certain occupations.

Below the bankers come two small groups of quite diverse kinds. One consists of farmers, and the other of men who have no specified occupations. Mechanics, or rather their sons, for practically no graduates of Yale and Harvard become mechanics, fall still lower, but they are so few that we have omitted them. The farmers probably occupy a low position mainly because the free institutions of America have by this time allowed a very large percentage of the more intellectual, ambitious, and competent people to be sifted out. The sons of farmers represent the highest grade of ability that still remains in that occupation—the men who are working their way out of it and becoming a part of the upper classes. The graduates who engage in farming are largely men who are forced to do so because of health. Perhaps the farmers and their sons would make a better showing in western universities, but that is another question. In spite of some good material, they now make a poor showing at Harvard and Yale. Finally, at the bottom of the list, comes the unspecified group, composed of men who themselves have no regular profession or whose fathers have no regular profession. Some such men are handicapped by poor health, others by their father's money, while still others have tried one thing and another but have succeeded at none. Naturally such men are not successful to any high degree, and do not have very successful sons.

The process by which people are sorted out and selected as members of one group or another are extremely complicated. Although occupations are one of the chief selective factors, education must by no means be ignored. We all know that the type of student varies from one institution to another, but we have not yet realized how clearly the children of the graduates of different institutions are differentiated. This appears when we classify the 1,600 men of native American

stock in the Yale classes of 1922 to 1926 according to the education of their parents. The following figures, taken from Table 13 in the Appendix, show the success of these men in college studies and in non-athletic activities outside the classroom compared with the education of their parents.

Education of Parents	Degree of Success Measured by Rank in Studies Plus Rank in Non-athletic Extra-curricular Activities
1. Father and mother both college graduates	80.4
2. Father a graduate of Yale College	80.4
3. Father a graduate of college other than Yale	79.7
4. Mother, but not father, a college graduate	78.9
5. Neither parent a college graduate	78.2
6. Father a graduate of the Sheffield Scientific School of Yale	77.9

This is a most extraordinary showing. The difference between the top and bottom of the table is equivalent to the difference between falling thirty-eighth and fifty-eighth in a class of 100. That is enough to be decidedly important if you are choosing an assistant, or a husband. Another measure of the importance of the differences shown is that invaluable, but somewhat abstruse thing called the probable error of the mean. For the lowest entry in the table this amounts to a trifle less than one-tenth of the difference between the lowest and the highest entries. Hence there is not one chance in billions that a larger number of men would make the group that ranks lowest rival the one that ranks highest. For all the other groups, except the fourth, the probable errors are still less, so that the general order of our table is firmly established.

Look at that order and see how significant it is. The 101 students whose parents were both college graduates head the list. They average high in their studies and excellent in non-athletic activities. In athletics they also stand at the top, being rivaled only by the 39 students whose mothers, but not

the fathers, were college graduates. It pays to have a mother as well as a father who is a college graduate, especially if you want to suceed in athletics. This does not look much as though a college education hurts a girl so far as motherhood is concerned.

The 250 students whose fathers went to Yale College rival those whose mothers as well as fathers went to college. The sons of Yale are not so intellectual as those of parents who both went to college, but they take more part in college activities other than athletics. The 400 sons of graduates of colleges other than Yale come next, and make a very creditable showing. Intellectually they rank exactly with the sons of Yale; but they take less part in extra-curricular activities. This may mean either that they possess less capacity in such lines, or merely that when a boy's father is a Yale man it gives the boy an advantage, especially during the earlier years of his college career.

It is interesting to see that when a college woman marries a man who has not been to college, the chances are that her children will not be so successful as those of her sister who marries a college graduate. The deficiency lies partly in the realm of the intellectual activities of the classroom, but still more in extra-curricular activities aside from athletics. In earnings the two groups of sons of college women are about on a par, while the sons of college women who did not marry college graduates excel the others in popularity. These facts make us think that where the mother goes to college and the father does not, the father is likely to be the sort of man who intellectually is fitted for education but whose temperament is such that he does not push his way ahead and get an education in spite of obstacles. That is just the type which stands high in studies, but not in non-athletic activities where leadership is especially required. The 800 or more men from families where neither parent went to college fall at about the level that we should expect. The only line where they stand

high is earnings, and even there they are considerably excelled by both of the groups whose mothers went to college.

The most surprising feature of our little table is the fact that the 45 sons of graduates of the Sheffield Scientific School, which is the scientific section of the undergraduate body at Yale, stand much below every other group. Their inferiority lies mainly in the classroom, but they also earn very little. In athletics they are about average; in non-athletic extra-curricular activities they rank above every other group except the sons of graduates of Yale College; in popularity as shown by senior votes they stand at the top. All this is exactly what would be expected by one who knows the inside history of Yale University and who believes in heredity.

The Sheffield Scientific School was founded for the express purpose of providing a practical scientific education with as little waste of time as possible. The original course of study lasted three years instead of four. These conditions naturally attracted men who were more interested in getting a living than in mere culture. They also attracted some who wanted a Yale degree as quickly as possible. In addition to the technical courses, the Scientific School offered another known as the Select Course. Its purpose was to provide an all-around education for men of scientific tastes who did not want to specialize in any one branch of vocational training. It so happened that this was an easy course, almost as easy as the kind which many men in Yale College formerly arranged for themselves by electing as many "snaps" as possible. It was chosen by many very fine men, but also by some who were looking for a Yale degree and the fun of college life with the least possible amount of work. Many a man who started in one of the stiff vocational courses of "Sheff," or in the College, but would not or could not keep up with his class, was allowed to transfer to the Select Course. In addition to this, the Select Course attracted a good many men who did not like languages, and who wanted to get into college without the drudgery of

learning Latin. All this is changed now. The Sheff course is four years; the Select Course has gone the way of all flesh; the entrance requirements and the first year's work are identical with those of the College; and the Sheff standards vie with those of any other part of the University. But the past is not wholly eradicated. When the sons of the less earnest and studious type of Sheff students enter Yale College they fail to make high records. With some, perhaps, this happens because they inherit a scientific type of mind, and ought to have chosen the Scientific School instead of the College, but in general these sons make poor records because their fathers were also the kind that make poor records.

Two significant features stand out in this whole study of college men in relation to occupations and education. The first is the clear-cut evidence that all sorts of conditions select men of different temperaments and abilities. The second is that the effects of the selection appear unmistakably in the sons, no matter whether their occupations and education are like those of the father or not. All this forcibly suggests that if the mothers were selected on the same basis as the fathers, and if this were continued for several generations, the differences which we now note, would for good or ill become more or less permanent. In other words, if such a course were desirable—which it is not—it would apparently be very easy to build up hereditary castes which would be characterized by permanent differences of ability and temperament. But even though it is not desirable to build up castes, it is desirable to eliminate certain types of what we may call antisocial or asocial human beings, and to increase the number who are in the truest sense social beings whose abilities and temperament lead to the improvement of society. Our studies seem to show that this could easily be done with only a slight modification of our customs as to marriage and families.

CHAPTER XVII

TO HIM THAT HATH

It is commonly believed that small families have a great advantage over large ones, especially if the income is small. A single child, to be sure, may be at a disadvantage, but if there are two, so the argument runs, they have many more advantages than if there are six, for example. While they are little the mother can devote far more time to them than if other babies were occupying her attention. When they grow larger they can be taken to the seashore or the mountains in summer, they can attend dancing classes, go to a private school for a year or two at least, spend their summers at high-grade camps, and have parties, pretty dresses, fine tools, plenty of good books, and many other desirable things of which the children in the large family are deprived. Later they can spend a summer abroad, and go through college without having to dissipate their energies by earning their way. When the parents die, each child will perhaps inherit an appreciable sum instead of a pittance. Do not all these things and many others constitute important advantages?

Another equally widespread belief is that the more successful people are, the less likely they are to have children. It would be easy to quote statements to this effect by persons of the highest repute. Much indeed that has been said in the earlier parts of this book seems to point strongly to such a conclusion. In fact, to make an honest confession, we began writing the book under the impression that on an average, small families tend to accompany high achievement. Both this idea and the one as to the advantages of small families
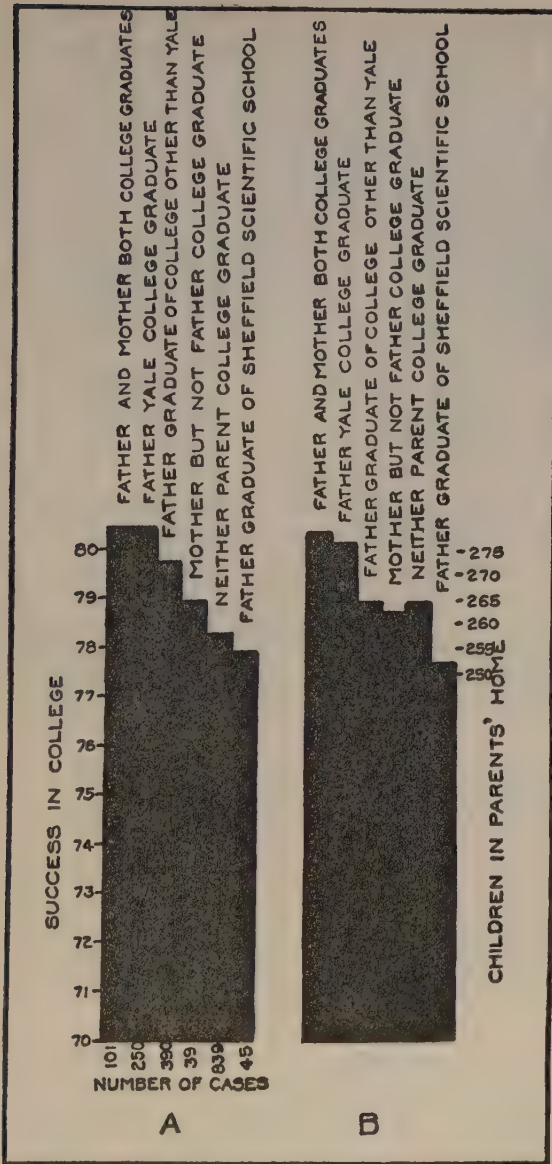
FIGURE 9. YALE COLLEGE CLASSES, 1922-1926. SUCCESS IN COLLEGE COMPARED WITH (A) EDUCATION OF PARENTS, AND (B) SIZE OF FAMILY IN WHICH THE STUDENTS GREW UP.

are so strongly intrenched that we expect to read misstatements about them for the next twenty years, but both are hopelessly untrue. Of course, a large family of morons has fewer advantages than a small family of geniuses, but we are talking about Builders, among whom social position, intelligence, income, and other conditions aside from the number of children are relatively uniform.

If we are right in what has just been said, why have people so largely failed to appreciate the truth? The answer is that almost nobody has taken the trouble to investigate the matter. Here are some of the facts, beginning with the least conclusive. It will be remembered that among Yale College graduates, to judge from the classes of 1922 to 1926, the men whose mothers as well as fathers are college graduates succeeded uncommonly well; the sons of Yale College graduates almost as well, regardless of whether the mother went to college or not; the sons of graduates of other colleges do not rank quite so high, but make a creditable showing, and so on. These facts are represented graphically in the left-hand part of Figure 9. The right-hand part shows the number of children in the homes from which the students in the six groups of the left-hand part of the diagram were derived. In the most successful group, where both parents were college graduates, the size of the family is largest. In the almost equally successful group where the father is a graduate of Yale College, the family is next in size. At the other extreme the sons of graduates of the part of Yale University known as the Sheffield Scientific School are not only even less successful than the sons of men who have never been to college, but have fewer brothers and sisters than any other of our six groups. This is true not only when five classes are averaged together, but in each class where there are enough sons of each kind to warrant comparisons. If we had a larger number of men, the slight irregularity in Figure 9 would presumably disappear. Even as the matter now stands we can say with considerable confidence, that other things being equal

the size of the families from which Yale students are derived is closely proportional to the students' degree of success.

Figure 10 illustrates the same thing in a different way. Here the 1,600 students of native white American parentage in the
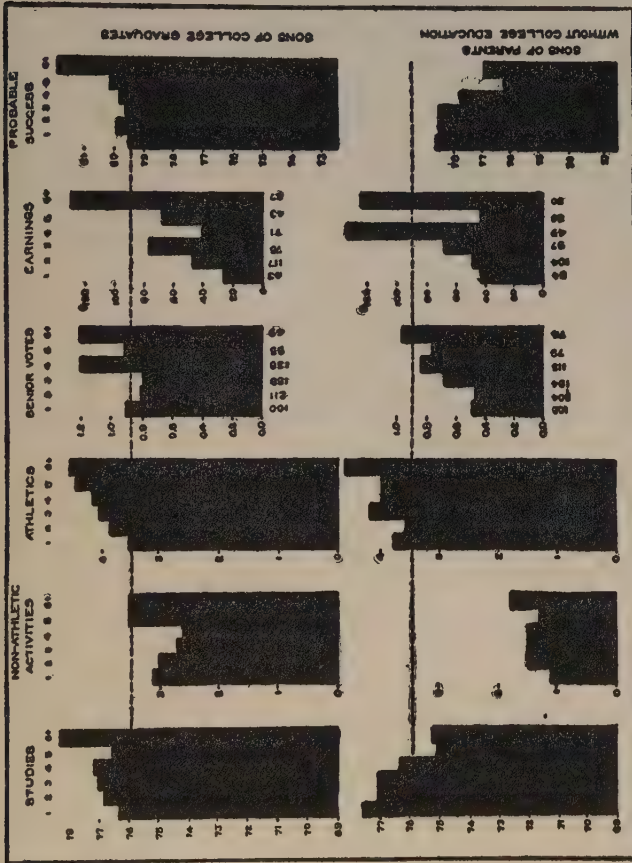
FIGURE 10. COLLEGE ACTIVITIES COMPARED WITH THE SIZE OF FAMILIES FROM WHICH STUDENTS ARE DERIVED. YALE COLLEGE CLASSES OF 1922-1926 INCLUSIVE, OMITTING STUDENTS OF FOREIGN PARENTAGE.

Yale College classes of 1922 to 1926 are divided into two almost equal groups. One, illustrated in the upper diagrams, consists of all cases where at least one of a man's parents is a college graduate; the other (the lower diagrams) includes all cases where neither parent went to college. In each diagram

the men who are the only children of their parents are represented on the left. Next come those who have one brother or sister, making two in the family, then families of three, and so on up to families of six or more on the right.*

In the upper set of diagrams, where one or both of the parents went to college, the general slope in every case is upward from the smallest to the largest families. Whatever irregularity there is presumably arises from the fact that many other causes quite unconnected with the number of brothers and sisters also have a highly important bearing on a man's success in college. In the diagram representing the studies of the classroom, the 30 boys from families of six or more children forge far ahead of the 100 who are the only children of their parents. Those from families of two to five children also surpass those from the one-child families. Some accidental combination of other circumstances happens to pull the families with five children below those with two to four, but that does not alter the general fact.

In non-athletic extra-curricular activities, the case is not quite so clear as in the classroom. The degree of activity among the sons of college graduates diminishes from the one-child to the four-child families, but increases notably in the families of five or more children. The explanation of this irregularity perhaps lies in a combination of two circumstances. In the first place, the boys from the smallest families are more likely than the others to be sent to private preparatory schools where they learn to take part in student activities before coming to college. The larger the family the less likely this is to happen. The other fact is that if the family is large, the children rub up against each other, they get their corners knocked off, they learn how to take part in group activities, they become skilled in adapting themselves to other people, and in making them work or play. They are thereby fitted to

* The number of men of each kind is indicated beneath the diagrams headed "Senior Votes" and "Earnings." The numbers under Senior Votes apply to all the diagrams except the one for earnings where only the classes of 1926 and 1925 can be used, the data for the latter being very imperfect.

assume a position of leadership as well as of coöperative activity. This may give them an even greater advantage than that of the boys who go to private schools. Thus in this respect the relatively good standing of the one- and two-child families may represent a real advantage arising from the drastic limitation of families. But by the same token, the still better standing of the students from five- and six-child families presumably represents the still greater advantage of the training received in a large family.

The diagram for athletic activities in the upper part of Figure 10 indicates a remarkably close relation between the size of the family and the success of the students in athletics. The bigger the family the more likely a boy is to enter athletics and make a success of them. Two reasons for this seem obvious. The first is that the rough-and-tumble play of one small boy with another is the best of all preparations for college athletics, not only physically but morally. Self-control, the ability to "play up, play up, and win the game" and to refrain from crying or whining even when hurt is one of the most essential of all qualities in the small boy who is to become an athlete. Nowhere do children learn these things so effectively as in a large family where the children do not vary too much in age. The other reason is that as a rule such families have better health and greater physical vigor than do the small families. Time and again the reason why there is only one child in a family is ill health or lack of a strong constitution on the part of the parents. Of course a large family is by no means always a sign of a strong physique on the part of the parents, but when we consider *only the children of fathers and mothers who graduated from college at least as long ago as about 1900,* a large family is usually a sign of good health and constitutional vigor on the part of both parents. The sons inherit that vigor and are likely to be good in athletics.

The votes of the seniors as to the success of their class-

mates in college and their probable success in life are a fairly good indication of the esteem in which the men are held by their classmates. They are more or less erratic, to be sure, but nevertheless have a real significance as indicators of the men who are most likely to make a high mark in life. The classes of 1922 to 1926 at Yale evidently thought that their classmates who came from families of four or more children were more successful and promising than those from the smaller families. This may be partly because the men from the larger families actually are more able, partly because the necessity for rubbing off their corners while young in the free-for-all of a large family has made them better mixers, better leaders, and in general more competent and agreeable than the favored and petted only sons in families of one or two children.

The earnings of the sons of college parents, as shown in the next diagram in the upper row of Figure 10, behave exactly as one would expect. They average six times as great among students who come from families of six or more as among those who are their parents' only children. Yet in spite of earning so much money, the men from the big families have time, energy, and ability to surpass the men from one-child families in every phase of college activity. Their chances of success in life are much better than those of the men from the small families where the parents fondly hope that they are "giving their children every possible advantage." If our estimate of probable success in life included not only rank in studies and in non-athletic activities, but also senior votes, athletic records and earnings while in college, the superiority of the sons of college graduates who come to Yale from large families would be even more apparent than in the last diagram of the upper tier of Figure 10. The supposed advantages of small families are certainly not very apparent when a boy reaches college. In fact it looks as though a boy's handicap

in college were almost proportional to the smallness of the family from which he comes.

Is the same thing true of boys whose parents have not been to college? Yes, with one important qualification, as appears in the lower diagrams of Figure 10. But before we discuss this, note the relative height of the different diagrams in the upper versus the lower row. The dotted line, which lies at the same level in both rows, makes comparison easy. With the single exception of earnings, the sons of college graduates average higher than the others. This is most markedly the case in non-athletic extra-curricular activities, and these, as we have seen, are one of the best indications of future success. In senior votes also, the sons of college graduates far outrank the others, while in athletics and classroom studies their advantage is not so great, although appreciable. Finally, in the most important matter of all, the probability of success in life, the sons of college graduates have an overwhelming advantage.

Concentrating now on the lower tier of diagrams, we find that among students whose parents have not been to college, those from large families are generally superior, just as among the sons of college parents. This is true in extra-curricular activities of the non-athletic types, in athletics, in senior votes, and in earnings. In classroom rank, and hence in probable success, however, exactly the opposite is the case; the smaller the family from which a student comes the greater his chances of success. This seeming contradiction is one of many cases where two diverse tendencies come into conflict. One tendency applies within a single social level, the other applies when different social levels are compared. Among Yale students those who are the sons of college parents generally belong to much the same social level. The sons of parents who have not been to college belong partly to this same upper level, but partly to other levels lower down in the social scale. As we go down in the scale the general degree of ability declines, while the size of the families increases. Such being the case

among the men whose parents are not college graduates, the students from the higher levels naturally tend to come from the smaller families, and also to be relatively intellectual. Thus the classroom rank naturally declines among the students from the larger families.

Still another factor increases this tendency. In studying *Who's Who* we found that self-made people who rise from the lower to the upper classes have fewer children than those who are born in the upper classes. This suggests that the most able and ambitious of the parents who send their sons to Yale but have not themselves enjoyed early advantages are the ones most likely not only to have bright sons but to restrict their families. They are the kind who limit their children to two for the sake of sending the son to Harvard, Yale or Princeton and the daughter to Wellesley, Smith or Vassar. On the other hand the large families among the parents who have not been to college are likely to belong to people who are decidedly "middle class" in their social affiliations. The son of such a family is likely to earn his own way to a considerable degree, but he does not go in for non-athletic activities. So much then for the size of the families from which college students are derived. If differences between one social level and another are eliminated, there seems to be strong evidence that it is a decided advantage to belong to a large family, and a disadvantage to belong to a small one. The parents who restrict their families for the sake of helping their children to succeed in life do exactly the wrong thing.

The strongest evidence as to the relation of the size of families to success in life is yet to come. Let us divide the Yale College classes of 1893, 1896, and 1898 into eight groups. In one we will put all who are unmarried, in the next those who are married but have no children, then those who are married and have one child, two children, and so on up to six or more. Figure 11 sums up certain facts about each of these eight groups. The unmarried men appear on the left

of each diagram, then those who are married and have no children, and so on to those who have six children or more. Diagram A shows the number of children in the families from
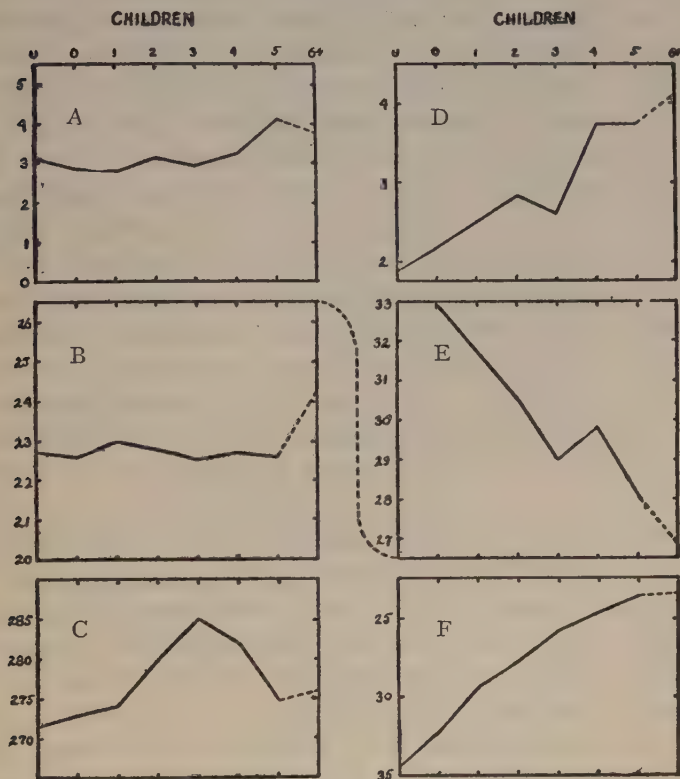
FIGURE II.   MARITAL CONDITION AND NUMBER OF CHILDREN COM-
PARED WITH CAREERS IN COLLEGE AND IN LIFE—YALE COLLEGE,
CLASSES OF 1893, 1896, AND 1898.
(u *indicates unmarried.   The numerals, 0 to 6 plus, indicate the number of
children of the Yale graduates*)

which the students were derived. On the whole, the line rises gently from left to right. This means that the men who come from small families tend in turn to have relatively small families while those from large families have more. Although

the difference is not great, it agrees with the well-known fact that the tendency to have large or small families is passed on from generation to generation.

The next diagram, B, shows the age at which the men graduated from college. The men who have large families graduate at approximately the same age as those who have small families. When it comes to success in college, however (Diagram C), the conditions are quite different. The unmarried men rank lowest of all; those who are married but have no children come next; then those who are married and have one child. The upward bulge in Curve C probably means that the many professors and other intellectual members of our three Yale classes have limited their families to two, three or four children more frequently than have some of the less intellectual men who have gone into occupations where the economic handicap is less powerful than among teachers. Nevertheless, the men who have five or more children ranked higher in their college studies than did those who have one, or none.

Turning to extra-curricular activities, Curve D, the relation between success in college and the size of a man's family becomes clearer than ever. There is an almost steady slope upward from the unmarried men with an average of less than two in extra-curricular activities to the men with six or more children whose average is four and a half. Extra-curricular activities of the non-athletic type, it will be remembered, are one of the best evidences of success in later life. Athletic activities, on the other hand, are an unusually good indication of physical ability. Thus Curve D suggests that the college men who remain unmarried, or who have no children though married, are likely to be relatively deficient in the physical vigor which makes athletes, and in the push, energy and power of leadership which make leaders in extra-curricular activities and in life. On the other hand, the men who have many children are the ones whose college careers evince physi-

cal vigor, push, energy, and at least a fair degree of intellectuality.

The age at which men marry is closely correlated with the number of their children, as appears in Curve E. Among the married men who have no children the average age at marriage is about 33 years. The greater the number of children, the lower the age at marriage, the average for those with six or more children being not quite 27 years. This difference of six years explains only a small part of the difference in the number of children. It is a symptom rather than a cause. It is symptomatic of the fact that men who are physically, mentally and morally sound and vigorous are not only more eager to marry than are the opposite types, but are more attractive to women and more likely to be well-established in their life work and hence able to support children at a reasonably early age.

The last curve (F) is extraordinarily perfect. It indicates success in life according to the ratings of a group of classmates. On an average the unmarried men are the least successful—those who are married but have no children succeed a little better, but not very well. The men with one child succeed better, and so it goes, until the most successful group of all is those who have six children or more. The difference between those who have three chilldren and those who have six or more is slight, but below that the differences in the degree of success are pronounced. Let no man judge from this that the number of his children is any measure of his success in life. Some of the best men in every class fall in each group from the unmarried to those who have six or more children. But we are using averages, and *on an average* there are many more unsuccessful men among the unmarried and childless than among those who have a number of children. The prevalent idea that successful people usually have few children finds no support whatever among Yale graduates.

In order to look at the matter in still another way, let us

divide all our Yale graduates into 10 groups according to their success in life. Group I will be the tenth of our three classes—that is, approximately 69 men—who are most suc-cessful; Group II those who come next, and so on down to Group X who are the least successful of all. The bottom line
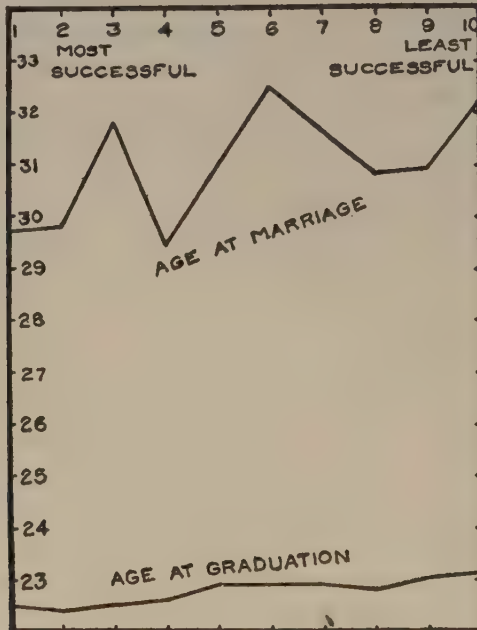
FIGURE 12. AGE OF YALE GRADUATES (1893, 1896 AND 1898) AT GRADUATION (LOWER CURVE) AND AT MARRIAGE (UPPER) COMPARED WITH SUCCESS IN LIFE.

in Figure 12 shows the age at which these men graduated from college. On the whole, the ones who were destined to be most successful graduated about half a year younger than those who were destined to be least successful, but the differ-ence is not great. The time of marriage shows the same kind of difference, but of greater magnitude. There is great irregu-larity in this, because one or two men who marry for the first

time at 40 or 50, for example, raise the average age far more than it can possibly be lowered by men who marry as soon as they leave college. Nevertheless, if we had men enough we should find that the most successful tenth of the graduates of Yale College marry at approximately the average age of 30, and the least successful tenth at approximately 32.
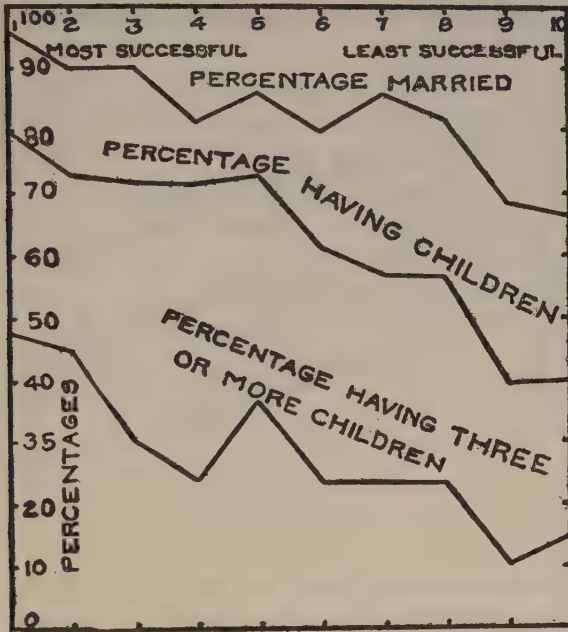
FIGURE 13. SUCCESS IN LIFE AMONG YALE COLLEGE GRADUATES (1893, 1896, 1898) IN RELATION TO MARRIAGE AND PARENTHOOD.

In Figure 13 the upper line shows the relation between success in life and marriage. Among the most successful 10 per cent of Yale graduates no less than 95 per cent are married, while the number gradually declines to only 66 per cent among the least successful group. The percentage who have children falls off in the same way, but even more rapidly, as appears from the fact that while 80 per cent of the most suc-

cessful group have children, the percentage declines to only
40 per cent, or about half as much among the least success-
ful. A similar, but even greater decline, relatively speaking,
is apparent in the line representing the percentage who have
at least three children. About 40 per cent of the most suc-
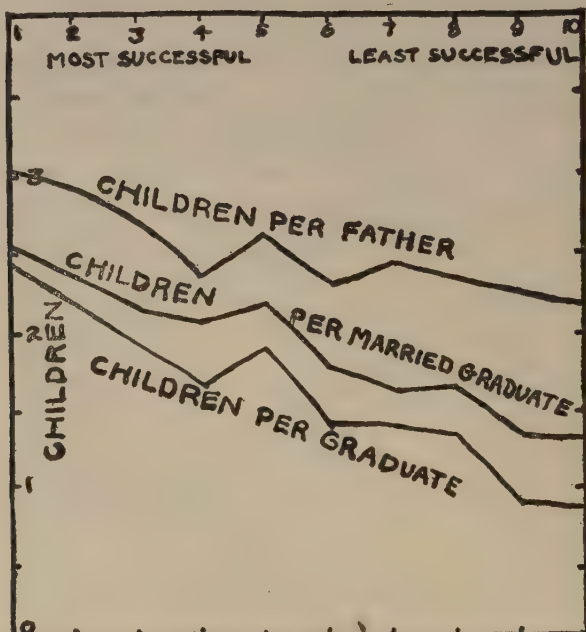
FIGURE 14. SUCCESS IN LIFE AMONG YALE COLLEGE
GRADUATES (1893, 1896, 1898) COMPARED WITH
NUMBER OF CHILDREN.

cessful men have three or more children, but only 10 or 15
per cent of the least successful.

Still another way of representing the same thing is seen in
Figure 14. There the upper line shows the children per father
in each of our 10 groups. The next line shows the children
per married graduate, and the lower line the children per
graduate. All three lines decline from left to right, but they
get farther apart as we approach the least successful group.

Here, as in so many other places, our lines would probably run straight if we had 1,000 men in each division instead of only 69. The lowest line is the most significant part of Figure 14; indeed, it may be the most significant thing in this whole book. What that line means is that among the most successful tenth of the Yale graduates of a generation or so ago, the average number of reported children *per graduate* is 2.4, whereas in the least successful tenth the average number is only a trifle over 0.8.

The relation between success in life and the number of children which we have found among Yale graduates is by no means unique. Table 15 in the Appendix shows that Doctor Phillips has found exactly the same thing among 1,900 Harvard graduates in the classes of 1899, 1900 and 1901. His most successful group of graduates, comprising about six and a half per cent of the three classes, reports an average of 2.19 children per graduate, as given in their 25-year class books, compared with 2.42 for the highest tenth of the Yale graduates. His lowest group, comprising seven per cent of the total members of the three classes, has an average of .80 of a child per graduate compared with .85 for the least successful tenth of the Yale graduates. At Harvard, as at Yale, the results for single classes are the same as when several are combined.

The same fact appears when we compare the men in any given profession. The whole matter is well illustrated in Figure 15, where our 2,600 Harvard and Yale graduates of a generation ago are divided into five groups according to their success in life.* The left-hand section of the upper diagram pertains to the unmarried men among the most successful fifth of the graduates. It shows their number expressed as a percentage of the total 2,600. The next section shows the cor-

* These groups are not quite equal in numbers because the method used in estimating the success of Harvard graduates does not permit this. The figures have been adjusted, however, so that they represent the facts as they would be if each group contained the same number of men.
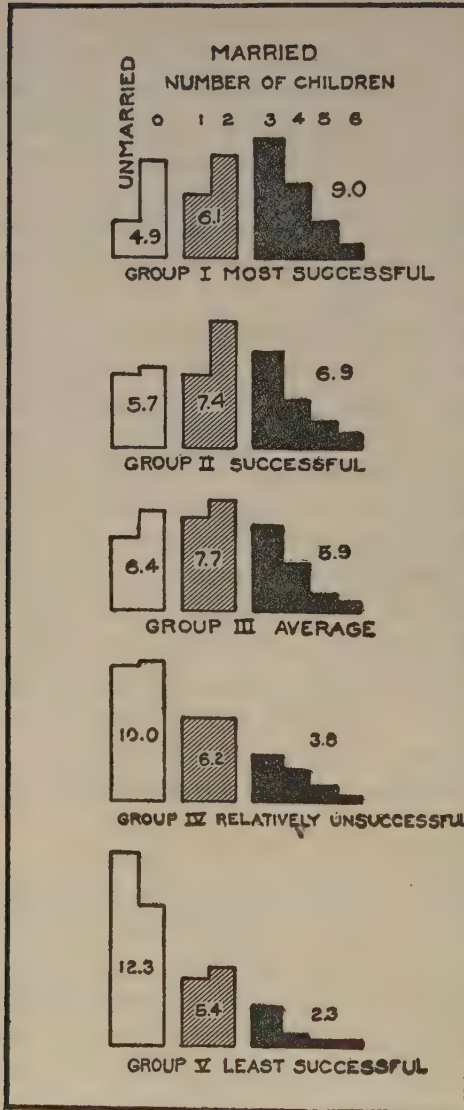
FIGURE 15. SUCCESS IN LIFE COMPARED
WITH MARRIAGE AND CHILDREN. BASED
ON 2,400 HARVARD AND YALE GRADU-
ATES, 1893 TO 1901.

responding percentage for men who are married but have no children. Then come those who have one child, two children, etc. The other diagrams represent similar percentages for the other groups, the least successful being at the bottom.

Several noteworthy facts at once appear. Among the most successful men those who have three children are more numerous than any other set. Among the next group, composed of men who are successful but not the most successful, families with two children decidedly predominate. Among the average men who form Group III, families of two children still are most numerous but exceed those with one child or no children only slightly. With Group IV, the relatively unsuccessful men, we find that married men with no children are the most numerous type, while among the least successful men the unmarried strongly predominate. Obviously the higher the degree of success the larger the number of children.

This same fact is manifest from several other features of Figure 15. The lightest shading, for example, indicates men who have no descendants and whose germ plasm is therefore exterminated. The men of this kind who belong to the most successful group form 4.9 per cent of the total number of graduates. Those in Group II form 5.7 per cent, and so on to the least successful group, where they form 12.3 per cent of the total. The number increases systematically from the most to the least successful. The medium shading indicates men who have one or two children, but not enough to replace themselves and their wives. Their descendants will constantly diminish in number if the children act like the parents. The number of such men does not vary greatly from group to group. It is greatest among the average men of the central group, and diminishes among both the highly successful and the unsuccessful. The darkest shading shows the men who have three children or more, and who therefore are destined to play an important part as ancestors of future generations. Notice the extraordinary way in which the shaded area
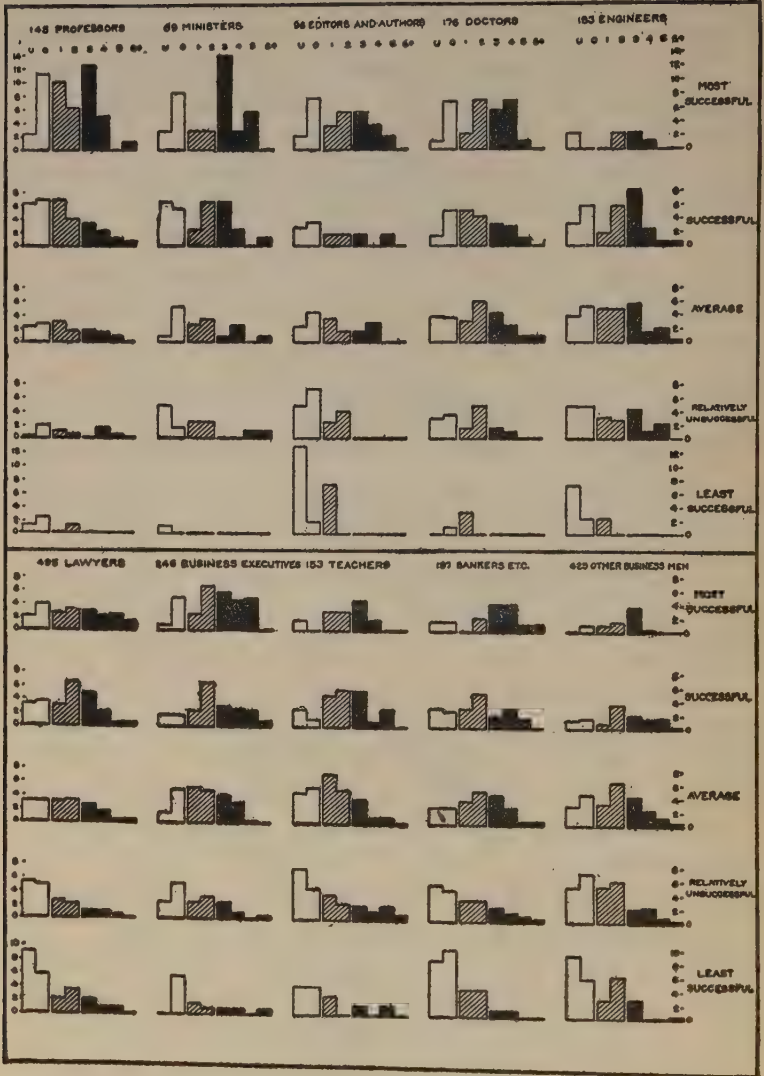
FIGURE 16.   RELATION OF OCCUPATIONS TO SUCCESS IN LIFE, MARRIAGE
AND NUMBER OF CHILDREN. BASED ON GRADUATES OF HARVARD
COLLEGE (1899, 1900 AND 1901) AND YALE COLLEGE (1893, 1896 AND
1898).

diminishes from the top down. The men of this kind in the most successful group form 9 per cent of the total—almost half of their own grade. In the next group they form 6.9 per cent of the total, or a third of their special grade. In the other groups these men who have children enough to maintain their own type diminish until in the least successful group they form only 2.3 per cent of the total, or about one-fourth as large a proportion as in the most successful group. Since the number of descendants increases or diminishes in a much more rapid ratio than the number of children, the highly successful graduate of Yale or Harvard is far more than four times as likely as the unsuccessful graduate to be the ancestor of future generations.

The difference between the rate of reproduction among the successful and unsuccessful is so important that we have illustrated it in another way in Figure 16. This is like Figure 15 except that the different occupations are separated. This brings out two essential features. The first is the difference between one occupation and another. Contrast the large proportion of professors, ministers, editors, doctors and business executives in the successful upper groups with the small number in the unsuccessful lower group. Among the ministers practically none are found in the least successful group. On the other hand, among the engineers, lawyers, teachers (aside from college professors), bankers and non-executive business men, there are more in the least successful group than in the most successful.

Space forbids further discussion of this subject, but we have inserted Figure 17 in order to bring out more clearly the differences between one profession and another. It is like the preceding figures except that all the men in each profession are put together regardless of success. Thus among missionaries, who are an exceptionally successful group, families of four children are the most common type. The number of missionaries is indeed too small to be of much significance,

but the same thing holds true when hundreds are considered.

Ministers are also rated by their classmates as highly successful; the dominant tendency among them is toward families of three children. Among business executives, on the other hand, the family with no children is the most common, but the two-child family closely rivals it. Among professors nearly the same thing is true except that families with one and three children are numerous. At the other end of the diagram the editors and authors, in spite of their success, are largely unmarried, or have no children if married. The few Army and Navy officers for whom data are here available are mostly married, but have no children or only one. The college man with no definite occupation appears to stand little chance of being married, while a considerable number of those who are married have no children. Finally, we see that among college graduates, as among the people of *Who's Who,* actors and musicians are the antithesis of missionaries. Not only are a large percentage unmarried and a very large percentage married but childless, but not one of those who are married reports more than two children.

Let us turn back now to our main theme. The second important point brought out by Figure 16 is that in every occupation, without exception, men who have three or more children are more numerous in the most successful group than in the least successful group. Among professors, for instance, the highly successful ones who have three or more children comprise no less than 31 per cent of the total, whereas not a single one of the least successful group has more than two. Among ministers, editors and doctors, practically the same condition prevails, while in every other group the percentage of successful men who have good-sized families is greater than of unsuccessful men. The universality with which this condition prevails in all occupations for which sufficient data are available, as well as in each of the six college classes that we have used, is astonishing. It indicates that we are dealing
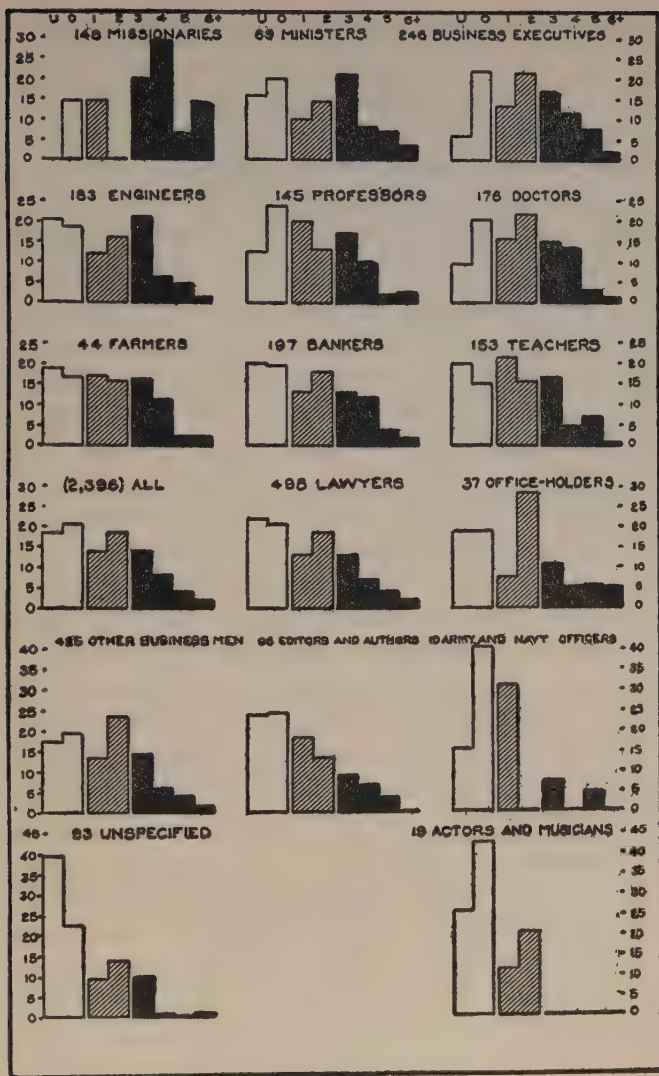
FIGURE 17. NET RELATION OF OCCUPATIONS TO MARRIAGE AND NUMBER OF CHILDREN. BASED ON GRADUATES OF HARVARD COLLEGE (1899, 1900 AND 1901) AND YALE COLLEGE (1893, 1896 AND 1898).

with a very deep-seated tendency. This tendency must apply to vast numbers of people aside from college graduates. Although no data are available, it seems safe to conclude that it applies to the whole human race, although its intensity diminishes as we go down in the social scale. But even at the bottom, other things being equal, the faithful, hard-working, good-tempered, and strictly moral laborer must on an average be more likely to be married and have children than is the shiftless, lazy, bad-tempered and vicious man of the same class. Thus there seems to be good ground for believing that although *for the present* the different birth rates in one level of society and another may threaten civilization, the differential birth rate *within any given social group* is the best possible augury of a happy future. The more freely it is permitted to work, and the more effectively its activity is pushed downward from the upper to the lower classes, the better.

Why should the most successful people at any given social level have the most children? Are not many of the finest people unmarried or childless? Certainly, but that has nothing to do with the matter. The point of the problem lies in the percentage of those best men who fall in each of our groups. Take the unmarried men for example. They undoubtedly include plenty of very fine men. But they also include a rather large percentage who are unattractive because of certain physical, mental or moral characteristics. Such men may be most estimable, but young women simply do not like them. Still others have perhaps failed to marry because the girls whom they wanted have not been willing to take them until they showed more signs of success. Another group is unmarried because of bad character. The man who is immoral, given to drink, or very self-indulgent in other ways, finds it much harder to get a wife than does the man who is free from those vices. Still others might have been much more successful if they had had wives and children to stir them up, encourage them, and hold them to harder work and finer ideals.

The same sort of reasoning applies to those who are married but have no children. In this group, childlessness is often due to physiological causes for which the individual is in no sense responsible. That is the misfortune of many very high-minded and successful people. But with these fine types must be put a larger number who have no children because of their own self-indulgence, their own selfishness, or some other defect in their own character.

The larger the number of children in a family of high grade, the more certain we can be that both the husband and the wife are physically strong. That in itself is a great help to success. The man of good physique and good health is likely to enjoy hard work; he is likely to be buoyant and optimistic; he makes friends more easily than the semi-invalid; he is not so easily discouraged by temporary failure. If his wife is also physically strong, he is relieved of many worries and cares which come to him otherwise. He has some one to encourage him when things go wrong, caution him when he makes mistakes, and in a dozen other ways help him toward success. Moreover, parents whose equable, dependable temperaments help them to succeed in the world are also able to get along well with one another and with their children. They are therefore much more likely to avoid the divorce court and to desire four to six children than are people who are irritable and erratic. Altruism likewise helps people to succeed in life, and also favors large families. Thus many qualities which promote success in life also promote large families.

One practical result of all this is that the upper classes are being sorted and sifted with extraordinary rapidity. We shall discuss this more fully in the next chapter. Another practical result is that we must completely abandon the modern idea that it is "the thing" to have small families. Among the upper classes, provided we deal in averages, the people who have families of three children or more almost immeasurably excel the others in practically every kind of real success. More-

over, the children born in the large families reap inestimable advantages. Thus the available evidence seems strongly to indicate the desirability that people with a fine inheritance, physically, mentally, and morally should have an average of four to six children, not only for the sake of society, but for the sake of the children. Such tends to be actually the case, in spite of the prevalent supposition to the contrary. But this tendency needs to be strengthened in order that children of the right type may be so numerous that their kind will not only be preserved, but will increase in relative numbers, thus giving the world a larger and larger proportion of high-souled leaders.

CHAPTER XVIII

THE MEANING OF IT ALL

WE now have before us a great array of facts whose significance can scarcely be overrated. Let us try to sum up their meaning. In the past, at many periods, the upper classes have had at least as high a birth rate as the lower classes, and a relatively lower death rate. Hence they have increased more rapidly than the lower classes. This appears to be the only healthful state of society. Under such conditions the more competent parts of the community may not increase with any startling rapidity, and the lower classes may not die off, but the general balance is in favor of some gain, however slight, from one generation to another. To-day the reverse is true. Economic pressure, industrialism, cities, freedom from class distinctions, freedom of divorce, the improvement of public health, the growing desire for self-expression, the cult of feminism, birth control, and various other factors have combined to cause a complete reversal of the old conditions. The upper classes are rapidly dying out, the lower classes are rapidly increasing. That is the great fundamental fact on which the eyes of eugenists have been focussed for a generation or two, and which the public is at last beginning to understand.

Although almost every one now admits the facts, there is violent discussion as to their significance. Some say that the difference between the birth rates of the upper and lower classes portends a great and speedy disaster to civilization. Others hold that the present conditions are not dangerous because a new upper class, as good as the old, is constantly being built up by recruits from the lower classes. That, so

they say, is the great merit of our democratic organization of society. Those who come from the lower classes are vigorous and prone to have large families. The sturdy sons of the soil and the ambitious daughters of the illiterate immigrant are well able to replace the effete upper classes. They are the hope of the future. Would that this were true! The discoveries set forth in this book seem to point to an exactly opposite conclusion: our study of *Who's Who* indicates that people who rise from the lower to the upper classes are not vigorous biologically. They may be extremely sturdy personally, but the new social conditions into which they enter cause them to refrain from marriage, to be childless though married, or to have very small families. So few are their children that they by no means reproduce themselves.

In this respect as in others, men appear to be much like animals and plants. When animals change their environment, they undergo new types of selection. When Amundsen tried to take Eskimo dogs from the North Pole to the South, the climate at the equator killed the first batch. He succeeded only when he refrigerated his dogs, so to speak, by evaporating water from sheets spread over them. If black snails and white are placed in equal numbers on a seashore where the rocks are dark, only the black will endure for any great length of time. The white ones will be picked off by birds because they are conspicuous. Banana plants thrive in Guatemala, but if set out in Florida, most of them die; if in Virginia, not one will live outside a greenhouse. An unfavorable social environment may be as deadly to human beings as is a hot climate to Eskimo dogs or a cold climate to bananas. That is why so large a proportion of the people who rise from the lower to the upper classes perish in the attempt. Of course the man who rises to eminence does not perish personally, but failure to marry and have children mean destruction biologically. Even if such men have a few children, the children are often handicapped as were the fathers, although not to so great

a degree. In our day, more than ever before, the ease with which people can rise from one social level to another and the universal freedom in respect to marriage and children mean that many are called but few are chosen as permanent members of the upper classes. The great winnowing process which thus occurs is the main reason for the common saying that it is only three generations from shirt-sleeves to shirt-sleeves.

The converse of all this is that when a family has become well established as part of the upper classes, it tends to continue in the same position for many generations. Of course, here too, as in the other case, the weeding process is more intense now than ever before. Some who are born in the upper classes fail to marry and to have children; some make unwise marriages or make marriages which, though seeming to be wise, produce unfavorable combinations of germ plasm. Thus many descendants of fine families are thrown into lower levels of society. Nevertheless, the upper classes appear to be mainly recruited from themselves. Here, as always, when we speak of the upper classes we do not mean those who claim that they belong to Society with a capital S. We mean the substantial old families, and many substantial new ones, who serve as leaders in town and country, in business and philanthropy, in intellectual matters and art, and in every phase of useful human activity. Not for a moment do we question that such families are replenished from the lower classes; the point that we insist on is that this happens only after a stringent process of winnowing. A person born to the purple, so to speak, is far more likely to have children and children's children than is one who by his own commanding genius has risen from the ranks.

People who rise from the lower to the upper classes are not the only ones who are subjected to a strenuous biological competition. Almost any one who differs markedly from the people around him is subject to the same handicap. This is evi-

dent when we consider how the birth rate differs from one occupation to another. We have already commented on the relatively large families of the leaders as well as the rank and file among people who are devoted to such primitive human activities as religion, farming, and the other primary occupations by which man's material needs are supplied. The historical line of human progress seems to have been from such great essential occupations to the more intellectual pursuits, and thence to those such as literature, music and art, which demand imagination and special talents. But as we go from the more fundamental and apparently more ancient human qualities to those that are newer and less thoroughly established, the families grow smaller. Teachers, scientists, lawyers and other people engaged in purely intellectual occupations have fewer children than those engaged in manufacturing and commerce; architects, engineers, authors, and others where the imagination or the creative faculty plays a large part have fewer than do those engaged in the more purely intellectual pursuits; actors, musicians and artists least of all.

The most satisfactory explanation seems to be that nature applies to every new quality of plant, animal, or man an extremely severe test as to its value in maintaining the life of the species. Practical ability—the kind of common sense which makes a man succeed as a farmer, merchant, or manufacturer—is of the utmost value in enabling a man to provide food, clothing, and shelter for himself and his family; it appeals to women as a highly desirable quality in a husband. Thus it is a great help toward the survival of any particular human stock. A religious and moral temperament is an equally great help in this respect. It not only deters people from harmful vices which tend strongly to diminish the number of children, but makes a man or woman desirable as a husband or wife because it tends to produce a loving, considerate atmosphere in the home. Such homes are the ones where children are most welcome. Moreover, the religious and

philanthropic temperaments, which are really the same thing, make people acceptable and desirable as neighbors, so that when trouble arises such people find plenty of others who are glad to help them. Such people possess social value in the highest sense of the term. In fact we may truly say that the religious or philanthropic temperament owes its value largely to its close affinity with the social instinct which makes people adjust themselves to others and live in such a way that their conduct is an advantage to the community as a whole.

But how about the intellectual ability which presumably represents the next stage in human development? Does it have any value in causing families to survive? Yes, in some respects; it makes people ready to accept good ideas as to hygiene and the like; it convinces them that it is wise to adopt a considerate attitude toward other people, to respect the laws, and to conform to the moral code which the wisdom of the ages has laid down. Nevertheless, the purely intellectual type of mind is subject to several harmful tendencies. The person with such an intellect is likely to be self-centered, impractical, and perhaps unwilling or unable to devote himself to the care of a family. Such an intellect may make a man very independent in action, which is good to a certain degree, but may lead to disaster because it makes people want to improve old customs and standards faster than is safe for the community. All these things militate against marriage and parenthood. Hence the highly intellectual type is likely to become a permanent part of human society only when pure intellect is supplemented by practical common sense and by the religious or moral attitude—the social instinct—which makes a man respect the usages of society and revere the truths which other men beside himself have discovered.

In the course of human evolution the last great phase appears to be the development of the imagination and of special powers like those of music, art, and acting. These powers are still so new that often they occur sporadically and show little

or no correlation with other mental capacities. The people who possess them, but are weak in the practical, religious, and intellectual sides of their natures, are likely to let their imaginations run away with them, so that they are even more impractical than is the purely intellectual type. They are likewise apt to be dreamy and to forget the necessity, not only of working to-day, but of planning for to-morrow. Moreover, the very nature of their professions tends to make it hard for them to found permanent families. Their work breaks down home ties not only because it often obliges them to travel a great deal, but because the prolonged and intimate contact with attractive people of the other sex which it entails tends to make divorce extremely common. Sometimes, as among actresses, the mere fact that a person is married and has a family is a serious professional handicap. Moreover, among people of these imaginative, emotional types, the hold of old inhibitions, old customs, and old established habits which have the sanction of religion is relatively weak, which still further lessens the number of children.

All this leads us to wonder whether these newer types of human ability, these lovely flowers in the garden of life, can ever be securely established unless they become firmly combined with intellectual capacities on the one hand, and with the practical and religious temperaments on the other hand. Much to our surprise our final conclusion takes the form of a new interpretation of certain standards of conduct which have been gradually evolving for thousands of years. Our surprise is due to the fact that purely biological reasoning confirms, and yet in one sense contradicts the main conclusions to which most of the world's great religious leaders, philosophers and other earnest thinkers have previously been led.

Our conclusion may be summed up thus: the only hope for a better and happier world in the future lies in the combination of religion, common sense and the social instinct, on the one hand, with intellectuality, imagination, originality and

esthetic appreciation, on the other hand. That does not sound very startling or original. Yet in one sense it is revolutionary. Hitherto the world has supposed that by *giving* people religion, education, high social ideals, good government, artistic training, and all the conveniences of civilization we could permanently raise their level. The eugenist has questioned this position. Our studies suggest that the actual birth rates of people of different temperaments are a controlling factor in determining the direction in which a given people shall develop. Undoubtedly religion, education, government and the like are also vital factors in determining such development. But it is very doubtful whether any amount of musical training, for example, will ever make a nation musical if the people who are born with unusually musical temperaments die off or have few descendants as soon as they give free rein to their creative abilities. Nor can you ever make a country religious, or moral, or law-abiding if there is a high birth rate and low death rate among great masses of people who are not innately religious, moral, and law-abiding, and only a low birth rate among those who possess these qualities.

Fortunately, the moral qualities, along with common sense, appear to have the maximum survival value when times of strenuous social selection arise. Our upper classes are now experiencing such a time. There are many signs that the spread of knowledge from the upper to the lower classes will soon bring such a time to the lower classes also. The growing density of population and the increasing stress of competition due to such density are hastening the day when the lower classes, like the upper, will be subjected to intensive selection. Who then will survive? Our answer is, the people who are born with a practical and yet religious temperament—the ones who have the social instinct. In other words, our main conclusion is that if we would save the world from calamity we must not merely *teach* people religion and common sense, we must begin at once to *produce* people possessing those quali-

ties by inheritance. If we would not only save the world but make it happy, contented and full of the love of science, art, music, literature and everything else that brings the joy and zest of life, the only road lies along the path of biological wisdom. The intellectual, imaginative, creative, and artistic faculties of the mind must be biologically combined with the qualities which insure survival. They must blend harmoniously with the practical ability which makes people able wisely to manage their own affairs and above all with an innate religious or moral tendency which causes people to reverence one another and respect the rules of conduct which have been laid down by the accumulated wisdom of the ages.

Does this sound like scientific fundamentalism? Do we seem to imply that we ought to have a great increase in the fundamentalists who are sticklers for every moss-grown moral precept simply because it is old, or in the blatantly "practical" men who have no use for anything that smacks of the imagination? Far from it! That is just what we ought to avoid; it is the Scylla toward which we have begun to drift after the immoral and irreligious orgy of the present generation off the cliffs of Charybdis. The point of the whole matter is that religious and practical qualities, as we have said again and again, are staunch, sturdy, and biologically sound so that they survive in times of stress; intellectual, creative, and artistic qualities, on the contrary, appear to be so fragile, or so new and poorly established as part of human nature, that they can survive only if combined with the more fundamental qualities of practicality, morality and religion.

We have lately been trying to develop the intellectual, artistic, imaginative, and esthetic sides of life by giving them free play, untrammeled by old notions of religion and morality. The most vital thing that we have thereby succeeded in doing has been to produce a tremendous biological elimination of the very types which we have been trying to develop, leaving the fundamentalist and practical types to inherit the

earth. The problem of the future is how to combine these diverse extremes and produce men and women who shall be well developed on all sides of their natures. Bear in mind that any human condition which departs appreciably from the established order, or rather from the more primitive type of man, appears to be penalized in the matter of descendants. Only when the more highly developed types retain the basic traits of the more primitive type do they appear to stand much chance of survival. That is why the artist, actor, musician, engineer, or author who is religious and likewise practical tends to have descendants enough to keep his line alive, while the one who is irreligious and impractical fails to maintain his inheritance.

A knowledge of the way in which practical common sense and religion help to prevent the diminution of a family from generation to generation also helps to explain a hopeful tendency which has hitherto remained almost unnoticed in spite of its overwhelming importance. That tendency may be summed up by saying that although no modern group of leaders has such large families as the lower classes, the most successful leaders have larger families and more descendants than do the less successful. We have seen that this appears to be true among the people in *Who's Who*, as we infer from the correlation between education and number of children. It is unquestionably true among Yale and Harvard graduates not only when they are considered as a whole, but in each occupation separately. Success in the broadest and finest sense of the word depends not only on intellect, imagination, originality and vigor, but upon good judgment, common sense, self-control, industry, integrity, and the ability to get on well with other people and thereby mold their opinions. These latter qualities are the very ones that accompany the practical, religious, and philanthropic temperaments. They are also the qualities which tend to cause people to have many descendants, for they promote marriage, make people desire children, and

conduce to a happy home life. The most successful leaders do indeed differ from the normal type of man, but their departure from that type is not a biological handicap. It increases rather than reduces their chances of marriage and of parenthood, and lessens the likelihood that they will restrict their families to the vanishing point. In this, we believe, lies one of the greatest secrets of human progress.

The age-long conflict between the tendency of the human species to evolve new and often bizarre types of mind, and nature's tendency to eliminate all but a very few of the unusual types plays a vital part in all sorts of problems pertaining to races, class struggles, eugenics, sex, and the rise and fall of civilization. An understanding of this conflict helps to explain why the upper classes now tend to have small families and the lower classes large families; why the people who rise rapidly in the social scale make so small a contribution to the upper classes biologically; why people who possess unique powers in the realms of intellect, imagination, and esthetics tend to die out. It sheds a flood of light on great historic movements like the artistic revival of the Renaissance, the literary brilliance of the Elizabethan days in England, and the many-sided greatness of the most palmy days of Athens. It suggests a reason why such periods are almost invariably succeeded by retrogression in art, literature, and science, and are followed at a later date by eras of great religious and moral revival like those of the Reformation, the Puritans, and the early Christians. In fact it leads to a wholly new philosophy of history.

If nature merely eliminated all new types of intellect, the world might go back to barbarism, then to savagery, and perhaps even to the state where men are mere animals. But fortunately, the highest types morally, religiously, and in the practical affairs of life, as we have seen again and again, are the ones that are basically best fitted for survival. When the artistic, literary, and imaginative types are weeded out

through their own lack of biological adaptation, and when civilization falls into decay, these more basic types weather the storm. In due time they apparently give birth once more to other types of high ability—the more delicate kinds that have previously been weeded out. The stability and material prosperity which come as a result of the dominance of the practical and religious types in whom the social instinct is strong, at length furnish great opportunities for a revival of activity along these less stable, but more interesting lines. As long as the newer, less sturdy types of mind are combined with religion, morality, and the practical temperament, it is possible for science, engineering, art, literature, music, and the drama to make great progress. They tend, however, to take the bit in their teeth, and become separated from the moral, religious, and practical types. Disaster is then inevitable, and civilization once more falls into decay. Something of this sort is what the seers have been telling the world for ages. But the seers have failed to realize that their teachings had a biological foundation. They thought that men could be made pure and strong and wise by merely being taught. They had no idea that the way to fill the world with true art, for example, is not primarily to teach the people to love art, and the artist to fear God, but to teach the artist to choose a godly wife!

The problem that we are facing to-day is by no means new—it is simply the old problem that has always been with us—the conflict between nature's tendency to produce new types, some of which are highly progressive, and her tendency ruthlessly to destroy every trait which does not promote the survival of the species. The only great difference between our day and the age of Pericles, the age of Augustus, the Renaissance, or the Elizabethan Age, lies in the fact that biological or social selection is probably now taking place with greater vigor than ever before. The reason for this vigor is merely the progress of human knowledge. The discovery of America

and other new lands, the growth in our means of transportation, the new knowledge of agriculture by which we can enormously increase the earth's productivity, and our new mastery of the science of chemistry, have vastly increased the capacity of the earth to support human beings. Thus for three centuries or so, the western world of Europe and America, and to some extent other parts of the world, have been free to increase and multiply as never before.

Now comes the day when we see that this increase in population must stop. The old way of stopping it would have been through war, pestilence, and plague, through the early death of great numbers of children among the lower classes, and through a general rise in the death rate all along the line. The new way is quite different. Science has reduced the death rate and endowed the upper classes with abundant knowledge as to birth control. The growth of our social system has given people a wholly new freedom, especially in the upper classes. They are free to marry or not to marry, to have children or not to have children. They are free to migrate from one home to another; they are free to settle in the cities which kill them off, or to remain in the smaller places where their chances of preservation are better. They are free to enter occupations which tend toward large families, or occupations which tend in the other direction. In all these respects a new and wonderful freedom, far greater than ever before, gives nature an unexampled opportunity to preserve one kind of people rather than another. She uses her old and well-proved method of selection, choosing for survival those in whom the social instinct, with its religious and practical temperament, is best developed. It seems incredible that nature should so carefully differentiate between one occupation and another, but the facts are clear. Give her full freedom, and she almost inevitably eliminates those who are most purely intellectual, imaginative, and artistic. To-day she is doing this with such rapidity that the western world is undergoing a sifting process which may bring disaster before we understand whither we are headed.

When the turn of the wheel is complete, a new race may emerge in America where the selection is probably most rapid of all. Shall it be a severely practical, Puritanical race, or a race that is religious without being Puritanic, practical without being drab and dull, and imaginative, original, and fond of beauty without being biologically self-destructive?

The biological condition in which the human race now finds itself is illustrated in Figure 18. The solid line shows the birth rate as it is to-day. Along the bottom the numbers show the population of the United States. At the left are the people of lowest ability—the imbeciles, the morons, and the stupid. Next come the people of low ability, who nevertheless are not abnormal. Then, in the center the great mass of ordinary people, not especially intelligent, but not especially stupid. These people are the kind indicated by the grades C—, C, and C+ in the Army classification. Above these we find a relatively small number of superior people, and a far smaller number who are very superior. The figures on the sides show the number of children who survive to maturity per pair of adult persons. This does not mean per pair of parents, but per pair when not only the married who have children, but the married who have no children and the unmarried are included also. The figures show the number of children for each such pair at the end of the period when they are likely to produce children.

See how strangely the curve of Figure 18 is shaped. At the far left it drops to zero. That occurs among the very lowest of all human types, those who are so imbecile, so diseased, or so unhealthy that none of their children survive to maturity. Among the group who stand a trifle higher in the scale of health and ability, the number of survivors unfortunately rises to high proportions. The families of people who are simply stupid, inefficient, and thoughtless but not vicious, are constantly replenished with children regardless of whether the children are good or bad, and regardless of whether they can be fed or educated. Such people are the sort among whom

the death rate has fallen most rapidly in recent years, whereas the birth rate has scarcely changed at all. They are one of the two great danger spots. They are useful only for manual
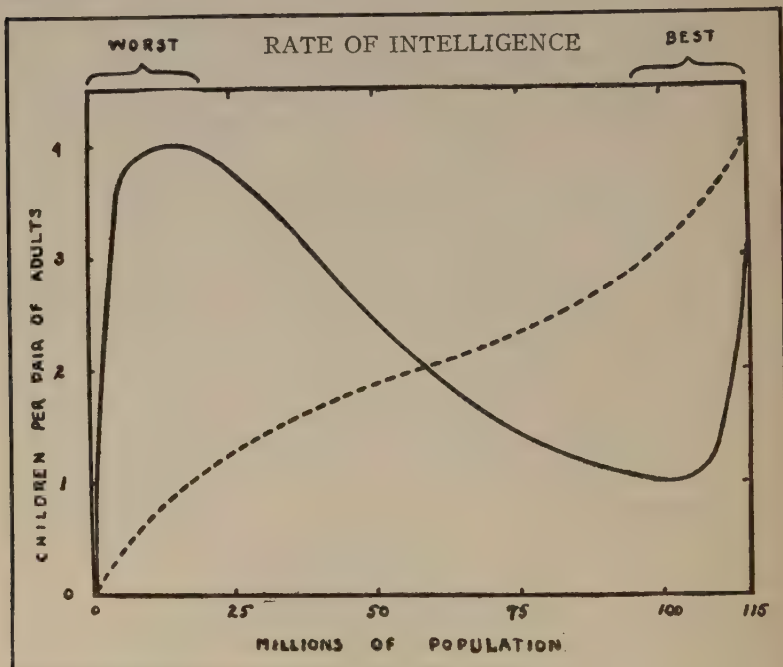
FIGURE 18. THE AMERICAN BIRTH RATE AS IT IS AND AS IT SHOULD BE. SOLID LINE, AS IT IS; DOTTED LINE, AS IT SHOULD BE.

labor, they are relatively stupid even at that, and their present freedom from disease, war, famine, and the other ills that reduced the number of their kind in the past make it possible for them to increase enormously. They are the sort who make democracy a farce because millions of them can be led by the nose. They think they are free citizens of a great republic, whereas they are merely the tools whereby the wicked and unscrupulous of the upper classes work their will upon the rest of the people.

Above them come a large number of people who are valuable members of society. But unfortunately, as we have seen again and again, the birth rate among such people falls rapidly as the scale of ability rises. Just how high the survival rate shown in our diagram ought to be, we cannot say. Why not? Simply because we are not discussing well-known animals like the horse, cow, pig, or sheep. If we were talking about them, we could draw a curve like that of Figure 18 with great precision. But we are talking about human beings, and our wise ones have not thought it worth while to discover just how large the families of that special animal are. Why should they? Human beings, according to our present laws, are not salable, either alive or dead. So our curve is based merely on estimates, but we are sure of its general features.

We have spoken of the upward bulge at the left as one of the two great danger spots. The other danger spot is the downward sag on the right. That indicates some millions of people—perhaps ten or twelve—among whom high intelligence and high ability prevail. They are what we call the great middle class, the people on whom democracy or any other form of progress mainly depends, but really they are the upper tenth of our population. They include the four fifths of our college graduates who fail to reproduce themselves. They are so close to the top that their more able children can easily become genuine leaders without being subjected to such stringent selection as occurs when people from lower levels try to rise. But unfortunately they are the very people upon whom the purging fires of modern civilization concentrate the fiercest flames. They are the kind who want to educate their children, who want to enjoy art and music in their homes, who want their children to have opportunities not only for the highest education but for travel. They long to start their children well in the race of life. They want to maintain standards like those of their most successful friends and neighbors. Unfortunately, they are likewise the ones who understand how to

limit the number of their children. Hence they are the type whose families are diminishing most rapidly.

The rate at which that diminution is taking place has already come to our attention. The point that we would now make is that if the present tendencies continue, the downward sag in the right-hand part of our curve will drop still lower, while the upward arch at the left will rise still higher. If this continues long enough, the time will come when the intelligent middle class, who form the very life of our civilization, will almost disappear. When that occurs, what kind of country shall we have? Part of the answer may be read in Figure 18. The right-hand end of the solid line of that figure constitutes what we may call the Curve of Hope. It indicates the very small but extremely important body of highly successful persons among whom the birth rate has not dropped so seriously as among their slightly less successful neighbors. They are the portion of the upper classes which is still reproducing itself in large enough numbers so that it increases. If present tendencies continue, the position of this small group will become increasingly isolated. Because of the diminishing number of available mates in the group just below them, they will tend more and more to marry exclusively among themselves. Because of this and because of the rapid elimination of their weaker members which is now going on, they will become increasingly competent. That will widen the gap between them and the lower classes, where the processes of selection are less active. Thus unless some sharp change in our social system takes place, the upper classes will almost inevitably tend to form a closely limited aristocracy, small but highly intelligent and very powerful.

That is where we seem to be headed. If the present tendencies continue unchecked, they will almost invariably produce a civilization in which the great middle class, which includes all but a small fraction of the upper 10 or even 20 per cent of our population, will almost disappear. There will remain a

vast body of ignorant and rather stupid lower-class people
who have been largely drained of their stronger elements by
reason of the freedom with which people move from one class
of society to another.   But in attempting to become part of
the upper classes, those better elements will have largely ster-
ilized themselves and been eliminated.   Some, to be sure, will
have become a permanent part of the aristocracy, but the
gain in this way is as nothing compared with the loss to the
common people.   Thus the common people of a few genera-
tions hence bid fair to be distinctly stupider and duller than
the common people of to-day, whereas the aristocracy bids
fair to be as brilliant as any that has ever existed, for it is
being sifted and purified with extraordinary vigor.   Perhaps
we are headed toward a condition like that of ancient Greece
with a brilliant aristocracy, a great proletariat, and no impor-
tant intermediate class to bind the two together.   Is that what
we want?   Can such a condition be stable?

It seems to us that the ideal toward which we should work
is illustrated by the dotted line in Figure 18.   That line il-
lustrates the survival rate as we believe that it should be, and
as we believe that it has been at the times and in the places
where mankind has made the greatest biological progress.
Some such condition apparently prevails in every county dur-
ing an early stage when able, healthy pioneers begin to build
up a future population.   In such a population the number of
children who survive in proportion to the older generation is
highest among the most competent, lowest among the least
competent, and shades gradually off from one to the other.
One of America's greatest needs to-day is to cut off the great
bulge on the left-hand side of the solid line in Figure 18, and
build up the great depression on the right-hand side.   When
that is done, we shall have a population which is biologically
sound, and which is able to maintain a civilization which con-
stantly makes greater demands upon the human intellect and
upon man's moral nature.

Let no man fear that such a condition will give us too many intellectual people and too few to work with their hands. Even if a condition like that of the dotted line should actually prevail, it will not come for many generations. Not for centuries, and perhaps never, will there be danger that intellectual ability will increase faster than is needed in order to keep pace with the growing demands of civilization. Such demands are the necessary consequence of growth. To-day we are in grave danger because civilization is becoming top-heavy; it demands huge numbers of competent people, while the number of such people grows rapidly less. If the future is to be safe, the number who are competent in intellect and temperament must increase at least fast enough to keep pace with the growth in civilization.

CHAPTER XIX

PRUNING HOOK AND SHEARS

THE main elements of our problem are now before us. The outstanding fact is that within a few generations an ancient tendency has been greatly and dangerously accelerated. From a state of society where the ablest and most moral families brought the largest number of children to maturity, while the stupid, incompetent and immoral brought the smallest number, we have passed to a state where the most competent, self-sacrificing, strong-minded and intelligent, aside from a very small group at the top, have families so small that they by no means reproduce themselves; while the incompetent, stupid and immoral have families almost as large as in the past. The worst feature of the case is that the birth rate among the fine elements of the population still seems to be diminishing portentously, while the survival rate among the less competent and more vicious appears to be actually rising, because the better people are saving the worse from the results of their own folly.

The obvious task before us is to reverse this tendency. The only effective way to reverse it is to diminish the birth rate among the less valuable parts of society and increase the birth rate among the more valuable parts. The world is confronted by a two-fold eugenic problem of the utmost magnitude. The negative phase of the problem deals with methods of diminishing the proportion of people born with a poor inheritance; the positive with methods of increasing the proportion born with a good inheritance. We mention the negative first because it already has a fairly definite program. We believe that in the long run the positive phase demands much

the greater emphasis. The number of Builders must be increased.

Before we begin to discuss either phase it is necessary to insist that eugenics is primarily a *social* problem, not legal, political, or legislative. Laws are indeed needed to aid in the elimination of our worst types and in the exclusion of poor types of immigrants. New legislation is also needed concerning such matters as freedom in the dissemination of information as to birth control, and as to the marriage of persons with infectious or inheritable diseases. But these are negative matters. On the positive side little or nothing can be accomplished by legislation. The idea that eugenists desire the government to take a hand in deciding upon individual marriages would be ludicrous if it were not so dangerous. It seems almost incredible that so eminent a man as Bertrand Russell should gravely argue against eugenics because, forsooth, a eugenic program would permit the politicians to control marriage and to see to it that children of their own type were produced in large numbers. Such an idea is preposterous and ridiculous. Its only justification is that some highly respected advocates of eugenics have temporarily let their enthusiasm run away with them. They have published dreams and visions which cause the ungodly to laugh with derision. But sane eugenists are practically a unit in believing that the positive side of any rational eugenic program must for generations depend almost wholly upon individual initiative. When eugenic ideas at last prevail among the great majority of sensible people, legislation will of course follow suit. That is the normal course of human events. But that will scarcely happen during our lives or during those of our descendants for many generations. We cannot repeat too emphatically that the positive side of practical eugenics is a social problem, pure and simple. It needs and wants practically no legislation.

Another point that needs emphasis is the difficulty of framing a sane eugenic program. No one can foresee the changes

that even a generation may bring forth in many lines which intimately affect the hereditary composition of our people. As yet, for example, we have only vague knowledge as to how the process of natural selection has been altered by the introduction of machinery, by the freedom of migration arising from modern transportation, by the crowding of the population into cities, the improvement of sanitation and medical practice, our new habits as to marriage and divorce, the new position of women, and a host of other factors. Moreover, the science of eugenics, as distinguished from the applied art, is only in its infancy. Hence a sound eugenic program must deal only with fundamentals; the details must be worked out by our successors.

The negative side of eugenics may be dismissed briefly. It concerns the Builders who read this book only in the same general way that problems of tariff, immigration, and labor concern them. It does not touch them in any such personal and direct way as do the problems of prohibition and of positive eugenics. Moreover, it has been so widely discussed that the main points in its program are well understood. Its first object is to *eliminate child-bearing among persons who are likely to transmit to their offspring serious hereditary defects,* such as manifest themselves in certain forms of insanity, epilepsy, imbecility, crime, violence, disease, abnormal sexual propensities and the like. A second object is to *reduce but not eliminate the birth of children among persons who may be useful but are of low types* in intellect or temperament.

The obvious ways of attaining the first object are the highly expensive method of segregation during the child-bearing period, and the much less expensive and more effective method of sterilization by means of surgical operations. Practically no intelligent person objects to segregation. The objections to sterilization assume two main forms. The first is that the production of children is a God-given privilege and duty which no human being has the right to take away from another.

Perhaps it is, but is it not an equally God-given privilege and duty to take every possible precaution to preserve the health of one's children? Yet no one has a right to bring a plague-stricken child into the children's ward of a hospital. It is a God-given privilege and duty to provide one's family with clothing and shelter, but that gives me no right to steal your children's clothes, nor does it give you the right to build your house in the middle of the park. We may have a right and duty to drive our automobiles in the streets, but not if we are drunk. Every right, privilege and duty, no matter what it is, is limited by the public welfare. If life, liberty, or the pursuit of happiness can one or all be rightfully denied to a confirmed murderer because he is dangerous to society, the right to have children can rightfully be denied to persons whose exercise of that right would endanger society.

The extent to which the surgical operation of sterilization deprives people of liberty and the pursuit of happiness is grossly exaggerated. In the first place the children whose coming is thereby prevented are generally not wanted. In fact they are usually looked upon as the troublesome price that must be paid for pleasure. In the second place, the operation itself is trivial in the case of men, and not serious in the case of women. Ironical as it may seem, the Steinach operation, which has been widely and favorably noised abroad as a means of rejuvenating old men, and for which some have paid thousands of dollars, is merely vasectomy—neither more nor less. Vasectomy is the operation of sterilizing the male, the simple severing of a tiny tube, for which a charge of five dollars would be almost too much. It is sought by some to increase the pleasure of life, and is denounced by others because it deprives imbeciles of the right to produce worthless children in whom they have not a particle of interest. Ye gods and little fishes!

The second argument against sterilization is equally absurd. It takes the form of the claim that physicians are not om-

niscient; if they practice sterilization, even under the strictest supervision, they may sometimes sterilize parents who would produce normal children. Then the argument goes on that they may thus prevent the birth of a Lincoln, an Alexander, a Socrates, or a Shakespeare. This is true. It is just as true as is the fact that if you toss a pebble into the ocean you may kill a whale. You may hit a whale's eye, his eye may fester, and that may kill him. But the chances of getting an Aristotle from the kind of parents who would be sterilized, even if sterilization were widely applied, are about as great as the chances that you will kill a whale.

The chances that sterilization will prevent the birth of some children who are normal, but of no great ability, are of course much greater. But why make a fuss about that when practically all healthy adults have time and again failed to beget children who might have been much more valuable than those of the unsterilized imbeciles or insane? What would you think of a farmer who carefully planted all the seeds from his poorest, sourest, smallest wild apple tree, and put himself to the trouble of giving special care to the seedlings and young trees in the hope that he might get a few passably good trees out of every hundred? He would be a fool, and that is what we are when we let morons and epileptics and sexual perverts bring into the world more morons and epileptics and sexual perverts because we hope that among them a few may have capacity enough to make passable servants, or even clerks.

But how about the people who are somewhat above the grade of moron, those who have no taint of insanity or other marked defect, but are merely stupid, cloutish, and relatively unteachable? They work as they are told to work, and beget children, but never add anything to the world's progress. They are the hod carriers of civilization, the garbage men, the unskilled laborers who botch their jobs because they have not brains enough to do better. Thirty millions? Is that the toll of these and their families in the United States? How

shall we hold down their birth rate? We certainly need to do so, for we have lowered their death rate tremendously and are spending millions of dollars on organized charity primarily, although unintentionally, to make it possible for them to bring up many children. The most effective means yet suggested of checking their inordinate increase seems to be birth control based on self-interest.

This is not the place for a discussion of this much vexed question. We can only say that the cumulative investigations of recent years have led us to the conviction that, for good or ill, birth control is one of the greatest of all forces in human development. Already it has attained such headway in America that its progress cannot be stopped. The upper classes have long understood it, but in these days anything which the better-informed classes understand and practice is sure to seep downward, especially if the lower classes eagerly desire it. Moreover, the progress of science appears to have made birth control safe so far as health is concerned. Already experiments have been made which indicate that women, at their own volition and with little risk of harm to themselves or of sterilization at some later time, can indefinitely postpone menstruation and ovulation and thereby make conception impossible. They can do this by means of the same secretions which nature uses when she produces a similar condition during pregnancy and lactation, and at certain stages of the œstrus cycle through which the ovum, or egg, passes on its way to maturity. Already among animals it has been found possible to control conception absolutely, preventing it as long as desired and then occasioning menstruation at will.

With such safe and effective methods once in their hands it seems almost certain that social workers will soon deem it one of their most urgent and sacred duties to prevent large families among people who ought not to have such families. Of course any such tampering with nature is highly dangerous, but we tamper all the time. We do it whenever we enter

Six pairs of brothers from six different families, all attending a school for abnormal children. Both genius and dullness run in families.
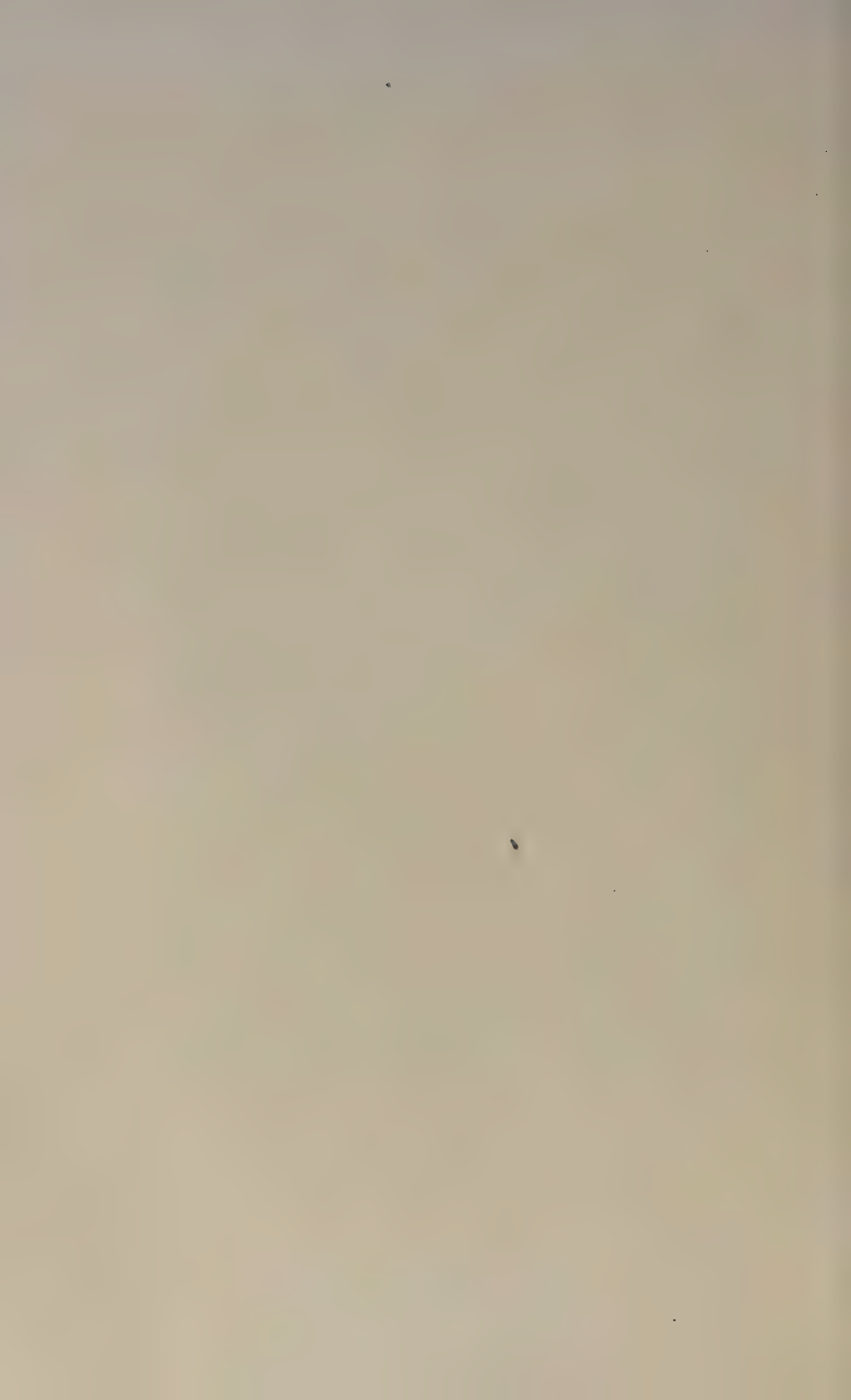
a heated house, put on clothes, eat cooked food, ride instead of walk, wear glasses, take medicine, or do any one of a thousand other daily acts which man "in a state of nature" does not do. Moreover, so far as birth control is concerned, the most dangerous tampering has already done its work. We have tampered unmercifully with the more fine-toned instruments in the great human orchestra. We have prevented conception by all sorts of dangerous methods among the upper classes, to the world's great detriment. The next step is to repair the balance among the different grades of intellect and temperament by the safe and skillful manipulation of the trained scientist instead of by the rough and dangerous bungling of the ignorant amateur.

That the lower classes want to have their birth rate lowered can scarcely be doubted. Almost every social worker knows great numbers of poor people who would be delighted if they could limit their families to two children with full safety to health, and still enjoy the pleasure of unrestricted marital intercourse. That would be an almost ideal condition. It would give to such people the pleasures of parenthood and of marriage; it would enable them to get on comfortably and lay by something for old age if they were frugal; and it would give the children a fair chance. Best of all it would gradually reduce the proportion of relatively stupid and incompetent people, for their rate of reproduction would be less than is required to replace themselves.

Let no man fear, as some seem inclined to do, that such a program will leave the world without enough manual labor. Even if the full program set forth in this book were carried out, a century of progress would still see this country with a large percentage of persons who are far more fit for manual labor than for mental. Suppose our morons, imbeciles, insane, and hopelessly criminal classes and all the rest of the seven per cent of our population in the D— and E, or very inferior groups, according to the Army tests, were to be reduced to a

quarter of their present percentage during the next hundred years. Suppose also that the people who have only inferior intelligence and constitute Grade D according to the Army tests, that is, those not able to go through the grammar schools, were to be reduced from 17 to nine per cent. Let there be corresponding changes in other groups so that the percentages run something like this:

D— and E.	Very inferior types.	2 per cent instead of	7.
D	Inferior types.	9 per cent instead of	17.
C—	Low average types.	17 per cent instead of	24.
C	Average types.	22 per cent instead of	25.
C+	High average types.	24 per cent instead of	15.
B	Superior types.	17 per cent instead of	8.
A	Very superior types.	9 per cent instead of	4.

The change that this would make in our population is illustrated in Figure 19. There the figures on the side show the percentages of the total population, while the letters at the top indicate the various grades according to the Army tests. In those tests only intelligence was considered, but here temperament should also be taken into account. Thus in our table Grades D— and E mean that people are so inferior both in temperament and in intellect that they are a distinct detriment to the rest of the community. There surely would be nothing but gain in reducing such people from seven to two per cent of the population. Grade D means people who are inferior both temperamentally and intellectually, that is, the kind of people who in the army make poor privates, or who in the work of everyday life make the sort of factory hands who never can be promoted into foremen or to positions requiring skill or responsibility. It is hard to see what harm there would be in cutting them from 17 to nine per cent. In C— we have people who have a low average intelligence. In the army they make ordinary privates; in the country they make poor farmers; and in the city, ordinary intelligent laborers who rarely get beyond that stage. Grade C is persons of average intelligence according to our present standards. They make good

privates with some fair to good non-commissioned officer material, as the army reports put it. In other words, they are just plain, ordinary, useful people who never do anything unusual, never rise to high positions, but are excellent in the ordinary physical work of the world. The C+ group comprises people of high average intelligence, "good non-commissioned
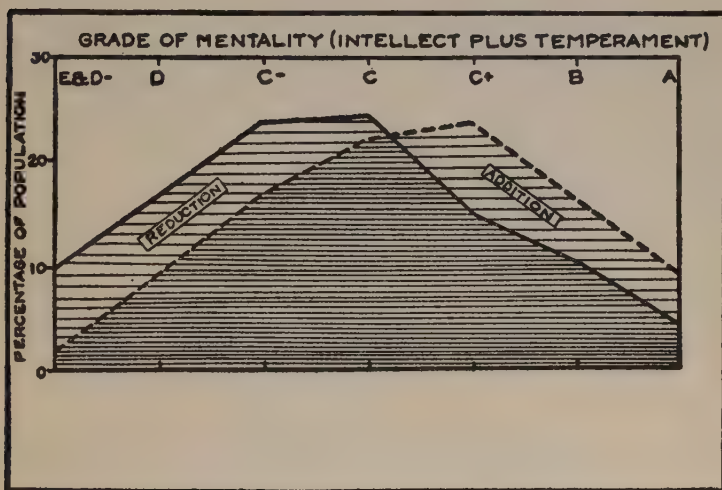
FIGURE 19. THE KIND OF CHANGE THAT EUGENICS PROPOSES TO MAKE IN THE AMERICAN PEOPLE.

officer material, with occasionally a man worthy of higher rank." In other words, this is the kind of people from whom skilled artisans, foremen, clerks, and the like are mainly recruited. This group, according to our diagram, would be increased from 15 to 24 per cent, whereas the group just below it would diminish a little. With Group B we come to the really superior people, "commissioned officer type and splendid sergeant material." In other words, the kind of men who fill the more responsible positions in all sorts of occupations, but who are not quite competent to stand at the top. Finally, Grade A comprises the very superior people whose intellects

and temperaments fit them to hold the leading positions in every type of activity.

In an earlier chapter we have shown that while the United States may contain a million men who are really superior in both intellect and temperament, there appears to be urgent need for at least six million. Thus if our population were to change so that in a century the lower groups were reduced and the higher groups increased to the degree shown in the diagram, we should nowhere nearly reach the ideal condition. Yet that would mean marvelous eugenic progress, more rapid than any except the most optimistic and visionary dare hope for in so short a time. But there would still be plenty of very stupid laborers for industries that want that kind, and plenty of incompetents to tax the powers of our social workers. Fortunately there would also be twice as large a proportion of competent leaders who ought to be able to frame new and wiser policies for the succeeding century. If people of that future day need more laborers, they can easily raise all they want.

But suppose that after several centuries the lowest portions of our population should be as competent as the median portions of to-day. Suppose that even the dullest should be able to complete a high school education, although not to go through college. Would that bring any serious danger of a shortage of physical labor? Not in the least. In the first place, if our average ability should increase, and especially if minds of unusually high grade should become more numerous, labor-saving machinery would be invented far more widely than is yet the case. A recent report of the United States Department of Labor points out that even the brief reduction in immigration to this country from the Great War onward has had a marked effect of this sort. In almost all the main types of manufacturing improved machinery, together with other improved methods has increased the productivity per man anywhere from 20 to 100 per cent. That sort of thing is one of

the earmarks of a high civilization. In the second place, in any community where ordinary labor is carried on by a relatively high type of person, such labor becomes honorable and carries with it no stigma. Many a clerk would enjoy working out of doors, if only such work were considered "respectable." In New York City the plasterers who work in the large office buildings earn sixteen dollars a day, with extra pay for overtime. That is twice the salary of the average assistant professors and instructors in our colleges to-day. If men with the minds of college teachers became plasterers, that occupation would be not only relatively lucrative but desirable socially. In the third place, would it do any harm to the boys and girls in our high schools and colleges, or to our young people up to the age of 30, if they were obliged to devote one day a week, or its equivalent, to unskilled manual work, and perhaps another day to semiskilled work, or skilled craftsmanship if they were capable of it? That would solve the labor problem. The junior author of this book was for several years a farmer and worked in the woods for three winters doing the hardest kind of physical labor. He considers those winters three of the happiest of his life. Multitudes of college-bred men thoroughly enjoy such work and would be glad to do more of it, no matter whether they are ordinary Builders or leaders of the highest caliber. Lincoln was a champion rail splitter; if labor had been scarce Socrates would gladly have hoed his row of onions before breakfast.

CHAPTER XX

THE BUILDERS' EXCUSES

THE preceding chapters have explained how the growing restriction of families among the Builders has brought the civilized nations to a serious crisis. Although such restriction is highly advisable up to a certain point, it seems to have gone far beyond the desirable limits. How can the birth rate of the more competent tenth, or fifth of the population be brought back to the level most favorable for progress. That is the great problem of positive eugenics. One of the first steps in solving the problem is to consider the concrete, personal reasons why families are limited.

The reasons for small families range from moral turpitude to altruism. Here is a partial list, arranged roughly according to merit, the inexcusable being placed first, the most praiseworthy last.

A. SELFISHNESS:
    1. Immorality and self-indulgence.
    2. Dislike of children, or unwillingness to be bothered by them.
    3. Desire for a "good time," for personal gain, or for any sort of selfish gratification.
    4. Desire to "keep up" with the neighbors or with your social group.

B. IGNORANCE:
    5. Lack of biological knowledge.
    6. The idea that small families are "the thing."
    7. Belief in "quality not quantity" and that one or two children in a family are better educated than many.
    8. The idea that straitened circumstances are "not good enough" for children.

C. Economic pressure:

    9. The appalling cost of physicians, hospitals, education, rent, and the like.

    10. The expense of maintaining even the minimum and wholly legitimate standards of one's occupation and social position.

D. Misfortune:

    11. Involuntary celibacy.

    12. Late marriage.

    13. Sterility due to no personal fault.

    14. Poor health, especially among women.

E. Laudable ambition:

    15. Desire for self-expression and a career among women, and to get on in the world among men.

F. Altruism:

    16. Personal sacrifice, as of a daughter who devotes herself to her parents instead of having a home and children.

    17. Desire to serve mankind, as among social workers, priests, nuns, and the like.

Some of the items in this list overlap more or less, and some fall under more than one of the main headings. New items might be added, and the exact order is subject to change. Nevertheless the list gives a fairly complete picture of the main reasons why the Builders have small families.

Selfishness and self-indulgence play a large part among the causes of a low birth rate. This is unfortunately all too true in spite of the fact that nature tends to eliminate people whose selfishness limits their families. This is accomplished partly through the sterility and ill health arising from sexual immorality and other forms of bodily indulgence such as drunkenness, gluttony and laziness. Even this type of selfishness is probably causing elimination more rapidly now than in the past, while other types are perhaps acting more potently than at almost any other period during the whole of human history.

In an earlier generation, for example, when parents had much to say about the choice of mates, when practically every girl was married young, and when birth control was little understood, the people who did not like children generally had them in spite of themselves. To-day, on the other hand, our freedom of choice as to whether we will marry at all, and as to whom and when we will marry, acts in the same way as does our widespread knowledge of birth control and the high average age of marriage among the intellectual classes. It allows people who do not like children not only to marry their own kind, more often than of old, but to marry later and have no children. Thus the members of the upper classes who really do not like children, or in whom the parental instinct is weak, are probably being eliminated to-day as never before. And a good thing it is. "God thins the breeds he does not want," as the old Irish proverb puts it.

Along with these eugenically undesirable people many others are being eliminated who really love children but do not know it. That is one of our great modern tragedies. Here is a man who says that he dislikes children. But is that really the fact? He does not like the disagreeable children who live in the next apartment, or the baby that cries all night down stairs. But let that same man have a baby of his own; let him help the mother in doing the intimate little things for the child, and nine times out of ten he will discover that children are a delight, not a nuisance. In due time if he has more children, both he and his wife will discover another curious and most delightful fact, especially if the youngsters are healthy, sturdy and merry. The first baby worries the parents more or less because they do not know how to take care of it. It takes all of the mother's energy; she does not see how she can possibly find time for another. But the second does not take nearly so much time or strength, or cause nearly so much worry. Somehow the mother is scarcely busier than when she had only one, and is not half so much worried. But only

with the third child do most parents really know the pleasure of children. By that time sensible parents have ceased to be worried when the children cry so hard that they hold their breath 20 seconds, which used to seem like 20 minutes. They know that certain faults will crop up during certain years, and will then suddenly disappear. Their minds are relatively at rest, and therefore open to enjoyment. With the third child, moreover, provided it is born at the right time, comes the inestimable joy of seeing the pleasure of the other children in their little brother or sister. The point of the whole thing is that the love of children is not only innate in the vast majority of people, even when they are unconscious of it, but that within reasonable limits it grows as the number of children increases.

Closely allied to those who really love children, but have not found it out, are those who enjoy children well enough, but do not want to be bothered with them. They are not wholly the kind whose germplasm had better perish with them; many have simply been made selfish by circumstances. The woman in such cases still has the mother instinct, but wastes it on a pet cat, a dog, a canary, or a single spoiled child. The similar instinct in the father may almost bring tears to his eyes as he sees his neighbor's splendid young son ready to join his father on a hunting trip. In such cases early selfishness, which is often largely ignorance, pays a very heavy price.

The desire for personal pleasure probably limits the size of families far more than does the dislike of children. Many people think that by refraining from marriage they will be free to travel, free to have a gay time at parties, the theater and the like, free to do as they choose without having to consult any one else's convenience. If such people marry, they often want to be free to enjoy one another for the first few years. Of course it may often be wise that the first child should not be born until more than a year after marriage, so that the parents may have a chance to become adjusted to one another,

but that is another matter. The vital question is whether people of high types will choose a transient and unsatisfactory kind of pleasure which does no special good either to the present or the future, or a far higher and more permanent type which raises the average level of the world both now and in the future.

The love of city life is one of the commonest of modern modes of self-indulgence, and one of the most deadly to children. The poor of the cities may perhaps be excused for bringing children into the world to play on the pavements and be run over by trucks. The well-to-do and even those who are only in moderate circumstances are right in feeling that a city is no place for children. But that is not a valid reason for failing to have children. If city people are sufficiently fond of children and sufficiently altruistic they can usually move to the suburbs for the sake of the youngsters. But thousands, nay hundreds of thousands of people do not see the matter in this way. They do not realize that they are not only losing the deepest joys of life, but are putting an end to their kind at an extraordinarily rapid rate. They may think that they are "the thing," but nature in her supremely inexorable way seems almost to have decreed that a hundred years hence the people who love apartment houses, city life, late hours and little exercise will have so few descendants that the great-great-great-grandchildren derived from all of that type in a whole great city of our day can live in one apartment house and enjoy each other to the full. Cities, with their comfortable but deadly apartment houses, appeal so strongly to our love of ease that they are among the most common excuses for childlessness—the greatest destroyers of Builders.

Love of pleasure and love of gain are so bound up with the desire to keep up with the neighbors that it is almost useless to try to deal with them separately. Here is the way in which the matter often works out. Jim and Sarah have just

been married. Since the people with whom they associate live in pretty houses or attractive apartments, they feel that they must do likewise. Moreover Jim feels that he owes it to Sarah to let her live in circumstances as good as those she was used to before marriage. When people give them pleasant invitations, they must of course do something in return. But such things cost terribly; a single theater party and dinner may cost a week's salary. They cannot yet "afford" to have a baby.

At first they debate whether they can buy a Ford car and make it last five or six years. After a year or two the Ford looks cheap compared with the cars of the neighbors. So a Dodge is purchased, but still they cannot afford children. A few years later their income goes up so much that they perhaps buy a Buick, and the cost of the car, including interest and depreciation, goes up more than the salary. Then perhaps they try to economize by buying a club coupé, rather tight for four people. Two years later they go the whole figure. They can't afford to have children: so they have a first-class car just big enough for two. That is the end of a family so far as that couple is concerned. Years later they may envy their neighbors who drive a shabby car with four healthy, happy, hearty youngsters laughing and chattering on the back seat. If that childless couple had realized one-half of the pleasure that those four youngsters bring and will bring to their parents, they would have made sacrifices earlier in life for the sake of such pleasure, and for the joy of children and children's children to light them into old age.

Ignorance may not be as bad as selfishness, but it is almost equally powerful in limiting and injuring the families of the Builders. One place where such ignorance displays itself is our schools. Our educational system, like our charity, might be converted into a most active ally of the Builders, but as things are, it gives little or no help in teaching our children and young people how to choose the right husbands and wives.

Ought not every school to teach the simple laws of heredity? It is easy to make children see how one of the two great aims of all life is the preservation of the species, the other being the preservation of the individual. Our schools might teach the children how the crossing of one variety of flower with another produces new types according to the Mendelian laws. They might show how and why plants and animals seem to revert to type sometimes, while at other times new forms become permanently established. They might demonstrate how natural selection sorts out one type for destruction and another for preservation. They might show how the mother animal, before her young are born, is marvelously protected from disease by a host of leucocytes, the white cells of the blood, which swarm through the arteries and veins in unusual numbers to combat every sort of harmful parasite or other incipient cause of disease. All these and many others are fascinating topics which every child ought to understand. Once understood they lead inevitably to an understanding of the importance of a good inheritance and of wise marriages. The possibilities are boundless.

Another way in which ignorance greatly injures the Builders is through the prevalence of false ideas as to what is really "the thing." Many people say that they have small families because it is not the thing to have large ones. Eighty Dartmouth students recently expressed their opinion as to how many children they wanted in their own families. Thirty-eight said two, while the average was 2.7. Multitudes of Builders, especially in the northern states, have similar ideas. They honestly suppose that the ideal family contains one son and one daughter. Such an ideal can only be the result of sheer thoughtlessness and ignorance. Almost none of the Builders wish that their type should become less and less numerous until it vanishes from the face of the earth. Yet that would be the inevitable result if the two-child family should become universal.

But how far is it really the thing to have families of only two children? Already we have answered this quite fully in respect to the graduates of Yale and Harvard, but the matter is so important that we may well consider it more fully. Let us see what sized family actually predominates among the most successful tenth of the graduates of Harvard and Yale whom we have discussed in previous chapters. Here are the figures as to the matrimonial condition and number of children of nearly 200 of the most successful men in America.

Unmarried	*Married, but Childless*	*One Child*	*Two Children*	*Three Children*	*Four Children*	*Five Children*	*Six or More Children*
17	25	22	36	44	25	12	6

The figures speak for themselves. They show that among these successful men 44 have three children and only 36 have two. But the figures do not tell the whole story. Some children who died in infancy are omitted, perhaps as many as 10 per cent. Moreover, a few children—but probably not more than three per cent according to Doctor Phillips—have been or will be born to these graduates after their 25-year reports were completed. The additional children are much more likely to be born in the families that already have children than in those where there are none. That will reduce the number of families with one and two children and increase the number with three or more.

If complete data were available, we should doubtless still find that three is the most common number of children. Those having four or more would be at least as numerous as those with three and decidedly more numerous than those with two, one, or none. When their families are complete less than one-fourth of the highly successful people will be found to have no children at all, a trifle more than a fourth have one or two

children apiece, another fourth have three, and the remaining fourth have four or more. This does not look much as though the two-child family were "the thing" even in our day. It will doubtless be still less so when the real facts are widely understood.

In the long run the larger families will be accounted the thing, because future generations are going to be composed mainly of people whose forebears had the larger families of to-day. Recently we rode through the Shaker Village near Springfield, Massachusetts, on one of the rich tobacco-producing terraces of the Connecticut Valley. The buildings stand there deserted, with closed shutters and weedgrown yards. But what else can one expect when people vow to have no children—to live as brothers and sisters—and cannot make converts to carry on their faith? The descendants of childless people have very little influence.

Well-meaning people have recently raised the cry of "quality not quantity" as a slogan for parenthood. This represents a curious illusion. What it really means is "extinction not preservation." The makers of the slogan have an idea that if a family has two children, which is about half enough to insure its survival, or even if it has only one, the quality will be much better than that of the children of the same family if there were four to six of them. So far as heredity goes, the fifth child, or the tenth, or the twentieth is just as well off as the first. As for training, the weight of evidence, as we have seen, seems to be that, other things being equal, the children in families where there are four to eight children, not too far apart in age, get better training than do those in families of one or two. They are more likely to have an opportunity to develop their own initiative, because placed more fully on their own responsibility. They are less likely to be spoiled; their corners are rubbed off; and they have the inestimable privilege of the very rigorous training which they give to one another.

In practically all discussions of the birth rate economic pressure rightly occupies an important place. Its importance

BILL

Doctor ——
Nurse ——
Hospital ——

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BILL

Doctor $ 200.00
Hospital Service 192.00
Nurse   192.00
Operating Room 20.00
Incidentals   50.00
               $654.00

THE RELATIVE COSTS TO FAMILIES IN DIFFERENT CIRCUMSTANCES FOR HAVING SIX AND TWO CHILDREN RESPECTIVELY DO NOT ENCOURAGE THE APPLICATION OF BIRTH CONTROL WHERE IT IS MOST NEEDED.

may be exaggerated; often it is made the scapegoat for self-ishness; but certainly it is one of the main factors, especially among the more altruistic professions such as teaching, the ministry, social work, and the like. Consider, for example, the cost of childbirth—the lump sum which a young couple must

pay down when their first child comes into the world. The average physician's fee for childbirth in eastern cities is $100, and as much more as the traffic will bear. This may not be excessive when compared with other medical fees, nor in the case of mothers who have a hard time and require the prolonged and assiduous attention of the physician. It is excessive compared with the demands made on the physician by the healthy mother who requires scarcely an hour of his time when her child is born and only a few conferences, of 10 or 15 minutes each, before and afterwards. It is still more excessive when compared with the purely nominal fees, or none at all, paid for practically the same service by the poor and destitute. Such fees and free hospital care are one of our many ways of encouraging the propagation of the poorest types of humanity.

The way the whole system now works out is this: the finer the mother in her combination of health, intelligence and temperament, and the more desirable it is that she have many children, the more she pays to the physician *in proportion to the service demanded of him*. Few physicians, we believe, would question this. Still fewer, we imagine, have ever thought of it in this light. If they had, some radical change might be made, so that those who are least fit to bring fine children into the world should pay the most, and those who are in all ways preëminently fit should pay the least. So many physicians are deeply altruistic at heart that there will perhaps be a change in this respect when once its eugenic aspects are understood. As things are now, when a physician tells a young couple that his fee for childbirth is $250, the hospital room $48 per week extra and the nurse $45, he unintentionally becomes one of the most powerful agents in limiting the number of children among the upper classes.

Of course the expenses of childbirth are only one of innumerable items in the cost of children. They bulk large because they are the first great expenses and because they de-

mand a larger lump sum than does any future normal expense until it is time to go to college. But how much does it really cost to bring up a child when once it is born? Under the direction of Dr. Louis I. Dublin the Metropolitan Life Insurance Company has recently made by far the most careful estimates yet available. The estimates are based on a family of five, that is, the parents and three children. An income of $2,100 to $2,500 throughout the whole period until the children are 18 years of age is assumed. Such items as food, rent, clothing, and the like are allotted to each child in what seem to be reasonable proportions. Of course, each child's share of the rent, for example, is small because living room, dining room, kitchen, cellar, lawn, and many other items are almost the same whether the children number none or ten. But obviously it takes a larger house for a family of four children than of one. Expenses for food, clothing, recreation, health, and many other items, on the other hand, increase almost in proportion to the number and age of the children.

Calculated in this way the net cost of each child to the parents in a family with an income of about $2,500 works out as follows:

Birth	$250
Food	2,500
Clothing and shelter	3,400
Education ($1,100 by community)	50
Recreation	130
Insurance	54
Miscellaneous	570
Total	$7,238

Suppose now that a family has four children who differ in age by an average of three years, and all of whom continue in school till the age of 18. That will mean that their expenses run for 27 years and reach a total of approximately $29,000. During those years an average income of $2,500 per year will make a total of $67,500. At that rate four children would take 43 per cent of the income, a very heavy drain on the par-

ents.   For parents in poorer circumstances the relative cost
would probably be greater except that the poor get free medi-
cal treatment, and assistance in many other lines, while their
children begin to be more or less self-supporting before they
are 18.   Among people with larger incomes, on the contrary,
the legitimate expense of children becomes a smaller percent-
age of the total as the income increases.   It is the self-respect-
ing middle class upon whom the cost of children bears most
heavily.   There is no escape from the fact that children are
expensive; they demand real economic sacrifice on the part of
practically all parents whose incomes are expressed in less
than five figures.   But they are worth the sacrifice many times
over.   If they turn out well, they pay a high return on the in-
vestment.

The economic question has other ramifications in addition
to the direct cost of children.   It has an intimate bearing, for
example, on the misfortunes of involuntary celibacy and late
marriage.   By involuntary celibacy we mean the condition
of that great army of people who would have been glad to
marry if they had met the right mates at the right time.   In
their deepest hearts the vast majority of unmarried people
cherish a secret longing for happy marriage, even to old age.
But when they fell in love, the other person did not do so;
when they met the right boy or girl, they were soon sep-
arated; when they found some one whom they might have mar-
ried, they were not far enough along in their careers, and the
two drifted apart.   Innumerable little accidents have made
spinsters and bachelors out of multitudes of fine people who
might have made excellent wives and husbands.   Some such
people are doubtless better off unmarried; in some cases the
lack of certain qualities, or the presence of others, has pre-
vented marriage.   Yet on the whole the majority of unmar-
ried people would probably make as good parents as the rest
of their social class.

The same is true of people who are married late.   In fact

both groups contain a large percentage of persons of more than average intellectual ability, ambition, and other fine qualities. They are victims of our social system with its long period of education, its high ideals of marriage, its high economic standards and its great latitude of marital choice. Late marriages doubtless possess certain advantages; in the long run they probably turn out happier than early marriages, and are less likely to lead to the divorce court. But against these advantages lies the fact that not only is the birth of a first child more difficult as women approach middle life, but both men and women are more likely to be sterile if they wait till 35 or 40 years of age before marriage. Then again, children and parents alike both suffer a real disadvantage if the parents lose their strength just when the children become most active. Nevertheless, the possibility of having fair-sized, healthy families, even when women postpone marriage as late as the age of 35, is much greater than many people suppose. It depends in considerable measure on a woman's own attitude.

The absence of children in many families and their small number in others are due in many instances to partial or complete sterility arising from conditions of health for which the individual has no direct personal responsibility. In Cattell's study of 461 men of science, only 74, or 21 per cent of those who had any children whatever, reported that their families had not been limited. Among the 285 whose families were limited 47 per cent gave poor health as the cause of restriction; 34 per cent gave economic reasons; and 19 per cent, other causes. Why does poor health occupy so high a position? Why do so many of the women of our upper classes fear child bearing, while the peasant women of Europe, and still more the savages of Africa, make light of it? Why should an American woman feel that she cannot attempt to carry a bucket to fill the radiator of her car, while her immigrant neighbor, a few blocks away, would not hesitate to toss a 100-pound sack of meal on her shoulders and walk away with

it? Why should some men shrink at the thought of cutting down one tree, while others cut, split, and pile three cords of wood in a day?

The answer is partly that generations of rapidly improving medical service and of a life in which there is little or no premium on physical strength have doubtless weakened the fiber of the most highly civilized races. This has presumably happened largely because the process of natural selection has been prevented from weeding out the physically weak as it does in the more primitive societies. Equally important, and possibly more so, as a cause of poor health, is the fact that our mode of life, as we saw in a previous chapter, requires less and less effort. Even if we are born with sturdy physiques, we do not develop them as did our ancestors. How far each of these two causes—lack of rigid natural selection in the past and lack of hard work at present—accounts for the growth of sterility among the upper classes to-day, and how far this is due to deliberate choice is uncertain. There is much evidence, however, that many married people who want children, but have none, owe their sterility to their ordinary life with its constant nervous strain and physical exhaustion. Not infrequently a change to a more rational out-of-door life with plenty of active physical exercise enables them to have children. We can scarcely doubt that the right kind of physical life, especially for the upper classes, would be a real help in enlarging their families.

In our day the desire for a career and for self-expression among women ranks high among the causes of small families, at least among the more intelligent classes. Not for a moment would we deny these things to women any more than to men. But we believe that the majority of women who hunger for careers apart from motherhood have not thought the question through to the end. Throughout this whole problem of the size of families there is a constant conflict between personal gratification and duty to society as a whole. As people are

now constituted we are inclined to think that personal motives
will play a much larger part than will a sense of duty to so-
ciety. Therefore we must clarify our ideas as to the relative
degrees of personal satisfaction offered by children on the one
hand and careers on the other. In the long run the decision
on this point lies mainly with the wife, not the husband. As
we see it, two main questions confront a woman when she has
to choose between children and a career. First, will the value
of the career to the world at large compensate for the value
of the children and children's children unto the third and
fourth generation whom she might otherwise have? Second,
even if a career satisfy her now while she is young and en-
thusiastic, will she get as much out of life 10, 20, 40 years
hence as she would if she had children.

Some young women attempt to answer these questions by
comparing a few exceptionally successful and contented child-
less women who have had careers with a few exceptionally un-
happy married women whose husbands and children have both
turned out badly. That, of course, is begging the question.
The true comparison is either between the happiest, or the
least happy of each kind, or better still between the propor-
tions of the two kinds who are genuinely happy or genuinely
unhappy. Take all the college graduates you know who are
over 50 years of age. Which give the impression of greater
happiness and of having more satisfactory lives: Those who
are not married? Those who are married, but have no chil-
dren? Those who have one or two children? Or those who
have three or more children? No one, so far as we know, has
seriously studied this problem. It would be extremely hard
to do so, and likewise extremely profitable. It appears to us
that on an average, and in spite of pronounced individual ex-
ceptions, the least happy group is the unmarried, then the
childless married people, next those with one or two children,
and happiest of all those with three or more.

"Grow old along with me. The best is yet to be—
The last of life, for which the first was made.
Our times are in His hands who saith, 'A whole I planned.
Youth sees but half. Trust God—see all—nor be afraid.' "

What youth does not see is the restfulness of having some
one of your very own who fully understands you, the joy of
children's voices that shout with glee when they see you, the
comfort of strong, loving sons and daughters in your hour of
weakness, the pleasure of having the grandchildren come home
for Christmas. We who have experienced some or all of these
unrivaled joys rate them as life's most precious treasures.
But how about the grief for children who die when they are
most lovable and promising? How about the more terrible
grief over children who go to the bad, homes that are wrecked,
and old people whose later years are blighted by the ingrati-
tude, neglect, and even contempt of their children? These
sadder aspects must not be ignored.

No one can decide for another in such intimate personal
matters as the choice between children and self-expression.
This much, however, can truthfully be said: If a family is suc-
cessful, the parents on an average get far more joy out of life
than do the people who grow old alone. We doubt whether
many childless old people feel such joy in the later years of
life as is expressed in the following quotation, but we are sure
that multitudes of happy parents subscribe to practically all
of it.

"Every period of human life is wonderful; the irresponsible
age of childhood, the thrilling years of adolescence and lover-
hood, the productive, fighting, burden-bearing era of parent-
hood; but the most wonderful time of life comes when the
father and mother become chums of their grown-up, success-
ful sons and daughters, and can begin to enjoy their children's
children.

"Youth is confined with restrictions, limitations, schedules
and dominations; adolescence is full of mysteries, longings

and defeats; early fatherhood is absorbed in struggles and in the solution of problems; extreme old age is shadowed by eternal mysteries; but middle age and normal old age, if life has been rightly and fully lived, are filled with the thrills, not merely of success, but of companionship with children and grandchildren.

"Every normal individual should complete the full cycle of human life with all its joys and satisfactions in natural order: childhood, adolescence, youth, parenthood, middle age, and the age of grandchildren. Each age has satisfactions which can be known only by experience. Ye must be born again and again in order to know the full course of human happiness. When the first baby is born, a mother is born, a father is born, and grandparents are born; only by birth can any of these come into being. Only by the natural cycle of life can the great progressive joys of mankind be reached. Any social system which prevents the individual from pursuing the normal cycle of life, from marrying young, from rearing a family before the age of 50 or so, and from obtaining the deep, peculiar joys of middle life and grandparenthood defeats the divine order of the universe and lays the basis of all sorts of social problems.

"When a young man and woman of the right biological type marry in the early twenties, and are prepared to earn a living and support and rear a family, they have started in the normal cycle of life. They are likely to give society far fewer problems of crime, immorality, divorce or poverty than are their unmarried companions. They will have children and rear them while they are strong, enjoy them when they are grown up and successful, depend upon them in weakness, and profit by the finest type of old-age insurance ever invented by man or God, an insurance which pays its annuities in material goods when necessary, but which mainly pays in the rich joys of love and fellowship. When a new social system—a eugenic system—enables all men and women to start right and pursue

this normal course of life, not only will many of our gravest social problems be solved, but old age will lose its terrors. The crowning joys of human experience will come in middle age and onward, through the companionship, love, and honor of children and grandchildren." (R. J. Sprague, Winter Park, Florida.)

We grieve for those whom economic pressure and misfortune bar from the full completion of the great cycle of life so well set forth by Doctor Sprague. We grieve still more for that noble army of men and women who sacrifice home and children on the altar of "service." But service to whom? To the world? Yes. To country? Yes. To the people around them? Yes. To future generations? *No*. The philanthropist, the social worker, the women on the mission field, the monk, the teacher, the inventor, and many others of the finest people in the world renounce marriage; or, if married, often renounce children, largely because they believe that thereby they are doing the world more good than if their time and substance were devoted to the cares of a family. And perhaps they are right, *so far as our generation is concerned*. In these italicized words lies the secret of the whole thing. We have been ignorant. Even the best informed have not realized that by sacrificing our own pleasure in the matter of home and children, we have been sacrificing, not merely ourselves, but future generations.

What the world needs to-day is not the martyr, the hermit, the sacrificial warrior, the monk, the nun, or the woman who dedicates herself to the service of the sick, suffering and degraded. What it most needs is bright, healthy, competent, strong-willed, clear-thinking children, born of happy, hearty, high-minded parents. During the next decade something like 25,000,000 children will probably be born in the United States. Perhaps 1,000,000 of them will be the children of Builders. But suppose that during that decade and each succeeding decade, 500,000 fine children were born in the United States

in families of the Builders where they will not be born accord-
ing to our present system. Suppose that most of them were
born to the noble army of school teachers, missionary women,
nuns, feminists, dutiful daughters, and other fine types who
sacrifice home and children on the altar of high purpose and
altruistic self-sacrifice. Suppose also that an equal number of
imbecile, stupid, and diseased children should be eliminated
because those who might have been their parents have volun-
tarily been prevented from bringing them into the world. Such
a thing might easily happen. Who can measure its results?

Some day the world will doubtless frown on any family that
has more than two children unless the older children rank
high in all sorts of tests, but it will pay great honor to the
parents of six children all of whom are superior in mind and
temperament. When that day comes the women who to-day
sacrifice themselves for the sake of high ideals will find that
their highest duty coincides with their deepest pleasure. What
woman would really choose lonely barrenness and a career,
no matter how self-sacrificing, instead of the kisses, hugs and
confidences of four or five children from babyhood to ma-
turity, the honor of all men, and the solid satisfaction of 15
or 20 grandchildren while she is still young enough to enjoy
them?

CHAPTER XXI

THE BEST IS YET TO BE

WILL the future be better than the past? We believe it will to a very high degree. But the better day will almost certainly be preceded by a very bad one unless a positive as well as a negative eugenic program is put into operation. Even if we make no effort whatever, nature herself will undoubtedly carry out both kinds of programs. She is doing this already as appears from the low rate of survival among the most degraded of all types of humanity, and the fairly high rate among a tiny group at the very top. She is trying, as it were, to bring about a sound situation where the rate of survival will rise systematically from the lowest to the highest; she is trying to eliminate the two great danger spots which take the form of an extremely high birth rate among people who stand only a little above the very lowest types, and of a very low rate among the highly valuable people who stand only a little below the top.

If we keep our hands off, the course of events will almost certainly be toward the development of a huge, stupid and unwieldy proletariat, the extermination of practically the whole middle class, and the growth of a very limited, but competent aristocracy completely divorced from the common people. Poverty, overcrowding, city life, disease, pestilence, famine and vice will doubtless in due time kill off a large part of the proletariat when the aristocracy becomes too small to maintain the present level of civilization. That will accentuate a tendency which already exists not only in the upper classes, but all along the line. That tendency, as we have shown again and again, is for the less valuable parts of a given group to

die off under stress of new conditions, while the more valuable parts survive. At present this takes place most markedly among the upper classes, because they are the ones whose mode of life, customs as to marriage, birth control and divorce, and habits as to self-expression, the position of woman and the like have most radically altered. But among all classes of society this same tendency must exist, although it has not yet been studied statistically. Even among morons it can scarcely be doubted that those who are most prone to sexual excesses, violent temper, inordinate gluttony and the like are less likely to become parents and more likely to have a high death rate among such children as they have than are those who are simply stupid without actively pernicious traits of character.

As one goes up in the scale this tendency for the best at each level to survive, while the worst die off, appears to increase in intensity until it reaches astounding proportions among college graduates. But suppose civilization decays and the lower classes are subjected to excessively bad conditions of health, nutrition, war, oppression, poverty and vice, as well as to the new modern conditions as to freedom of marriage, birth control, and desire for pleasure. In that case the selective process seems bound to become as active in the lower classes as it now is in the upper. In those same upper classes, on the contrary, we may confidently expect that by that time there will be a fairly perfect adjustment to the new social environment which now occasions such alarm. Thus they will have passed the stage where their numbers are rapidly depleted, whereas the lower classes will have reached that stage, or perchance one that is even more destructive and selective.

If all this should happen, as well it may, a new race will be built up from the aristocracy on the one hand and from the selected remnants who have been able to survive the cataclysms that have overwhelmed the lower classes. But meanwhile the chances are that great and widespread suffering will

ensue and civilization will almost disappear, as in the Dark Ages. The task of eugenics is to coöperate with nature, but at the same time to prevent any such debacle by insuring a favorable birth rate, high at the top and low at the bottom, without permitting civilization to pass through the valley of the shadow of death.

As we attempt to frame the outlines of a positive eugenic program, it is obvious that the first great step is to gain more knowledge. Among the great agencies for human improvement almost no other has been neglected so systematically as has eugenics. Our national government spends over $300,000 per year to improve the genetic qualities of horses, cattle and pigs, but not a cent for the eugenic improvement of man. During the last few years 23 of the most generous philanthropists have given approximately $1,400,000,000 for the improvement of the education and environment of the human race, but scarcely anything for the improvement of human heredity. We are establishing wonderful institutions like the great Rockefeller Medical College in Peking to save human wreckage, but we are doing little or nothing to prevent the production of the bad human timber which causes the wreckage. As things are now, the saving of the wrecks is almost certain to cause still further wrecks, for *the bad timber is straightway put into new ships.*

Because all this is true, the chief weapon in the arsenal of positive eugenics is knowledge; not laws, or institutions, or the regulation of marriage, but simply knowledge. To get that knowledge and to make it absolutely reliable there is need of great endowments for scientific research. Incredible as it may seem, the meager statements in this book summarize a large part of what we know as to the size of families. We cannot place our finger upon the exact factors which control the changes in the birth rate from one year to the next, nor do we know how the birth rate is affected by migration from country to city, North to South, East to West, or one occupation

to another. We know still less as to just how a vast multitude of human traits are inherited, which ones are linked together, which of the evil ones can easily be eliminated by proper marriages, and which are so dangerous as to make marriage unsafe.

The problems of eugenics lie around us as thick as blackberries in the old pasture, and pickers could easily be found. That they would bring home rich store, not only of blackberries but of rarer and more valuable fruits is as certain as the multiplication table. But there are almost no funds for such work, only the gifts of a few farsighted prophets. People refuse to pay for such "visionary" things as studies of the twisting of chromosomes, or the eugenic effect of the death rate from accidents. There are too many "practical" things to be done. Our colleges need million-dollar dormitories to house boys and girls who are as poor as church mice; we must build vast asylums for our insane, vast prisons for our criminals, vast hospitals for our sick. We must have clubs and camps for poor city boys and refuge homes for erring girls. We are so busy sweeping up the litter brought in by the raging wind that we have no time to shut the door and prevent more litter from coming in. But the day is fast coming when the greatest gifts will, for a time at least, go to this most pressing of all subjects of human thought and action. The greatest study of mankind is man; the thing that we most need to know about man to-day is how to obtain the best human material. If we have men and women who are made of the right stuff inherently, we can train them to do almost anything. But what is the use of improving our methods of training, our methods of business, our methods of philanthropy, unless we also see to it that the people with whom and for whom we work become innately better from day to day instead of innately worse. Knowledge, more knowledge, and still more knowledge is the first great cry of eugenics.

The next great cry is for the distribution of that knowledge.

A few agencies are to-day spreading it abroad, but they are insignificant compared with the powerful and ably managed organizations which are booming the chemical industry, for example. By contrast with our political machines or such organizations as the Anti-Saloon League, the missionary societies, and the League of Women Voters, the agencies for spreading eugenic knowledge are scarcely more than toddling infants, husky and promising, but hardly able to do more than walk and talk as yet. The food that they need is that same food which for good or ill feeds every other organization— money and men. Let money be given and men and women be employed to disseminate eugenic knowledge as freely as to sway political votes or maintain orphanages and hospitals, and the world would soon realize that it is face to face with a force as powerful as the great industrial revolution which dominates our lives so fully, as fruitful as representative government, as merciful as Christianity.

Even among people who already know the facts a great many do not yet realize what they mean. This is illustrated by the experience of a group of ten college graduates, members of the same fraternity, who had gathered for their twenty-fifth reunion—they and their wives. As they sat about the open fire in the palatial home of one of them, the talk drifted to old times, the unusual prosperity of each member of the group, and the fact that all were living, all were married, and all the wives were living. Then came the topic of children, and a census was taken. Fifteen children in ten families.

"Why, fifteen is not enough to keep our families alive. There are twenty of us, but only fifteen children."

Then they talked the whole thing over, frankly and fully. It seems scarcely credible, but all those families save one said that they had never thought of death as the end of their families as well as themselves, or of the number of their children as any measure of their contribution to society. If they had, they would have had more children; but now for most it was already too late. Then some one quoted Shakespeare:

"He that is stricken blind cannot forget
The precious treasure of his eyesight lost."

Several of the men and women of that little company were
deeply affected.   Yet they were not to blame.   They simply
had not thought.   How often we punish our children for not
thinking.   How mercilessly God punishes our families for not
thinking.   Nature's punishment is death—death of powers and
aptitudes which it has taken thousands of generations to build
up through the long toilsome processes of evolution.   Yet the
custodians of this marvelous germplasm, which carries in it-
self the highest things that we yet know, defeat the ends of
nature by careless thoughtlessness.   In so doing they add to
their own punishment, for they not only harm the future of
society, but immeasurably curtail their own happiness.

Thoughtlessness is the saddest thing about the whole situa-
tion, and yet it is the most hopeful.   The people who have
not thought can be made to think.   Many of those who thus
begin to think are among the most conscientious and altruistic
of all our people.   Many of them are in comfortable financial
circumstances, and are among the most generous givers to all
sorts of worthy causes.   Let those same people once realize
that the gift of half their income to good causes is of paltry
value compared with bringing four or five fine children into the
world and bringing them up in simplicity and righteousness,
and who can measure the results?   If they genuinely realized
the significance of the facts that are now available, they would
soon belong to the number of those of whom it is said, "Ye
shall know the truth, and the truth shall make you free."

As soon as a sufficient number of people realize the impor-
tance of eugenics, the world will be ready for a great series of
experiments.   Some will be aimed at the economic handicap
which so frequently limits the size of the most valuable kinds
of families.   It would be extremely dangerous for any gov-
ernment to tamper as yet with the problem of eugenic mar-
riage; it is simply suicidal to give bonuses for children when
such bonuses are awarded equally to good and bad inheritance.

But private enterprise can easily and safely try many experiments which governments ought never to touch. Missionary societies and some foreign colleges, such as Robert College at Constantinople and the American University at Beirut in Syria, have already tried such an experiment, as is described in an earlier chapter. The experiment is so promising and seems to achieve so exactly the results desired by positive eugenics that it might well be given the fullest trial in America. The gist of the matter is that salaries are paid on the basis of the size of the family. When each child is born the family income automatically rises by perhaps 10 per cent of the basic salary. As the children grow older and have to go away to school or college a further increase takes place. The essential feature is that the coming of children does not materially alter the economic situation of the family.

We have already discovered that the number of children in missionary families is not only exceptionally large, but has not declined with any such rapidity as has the number among ministers. The only satisfactory explanation of this last feature seems to be that children are not an economic handicap in missionary families. Such being the case, the question at once arises whether a similar system applied to other professions would produce similar results. The children of professors, to judge by our studies of Yale graduates, rank next after those of missionaries in their success in college and in life. College professors, as we have seen, are a highly selected group, and their wives share in the selection to a considerable degree. How then would it work if the missionary system were applied to a college, as is suggested by Professor William Mac-Dougall in his stimulating little book, *Is America Safe for Democracy?*, and as is actually done in the National Research Council's awards for fellowships?

Let us inquire somewhat minutely as to what might happen if such an experiment were tried in a university. One of the most beautiful and famous buildings in the United States is

the Harkness Memorial Dormitory at Yale University. Its exact cost has never been revealed, for it was a private gift; but it is known to have cost not far from $7,000,000. Suppose that some high-minded and farsighted benefactor of mankind should decide to try a great social experiment. He realizes that the salaries of university teachers must be increased from time to time. He also realizes that there is still greater need to increase the world's supply of strong-minded, clear-sighted leaders, and that the sons of university professors come nearer to filling this need than do the sons of men in any other profession except missionaries. He calculates that the interest on the investment in the Harkness Dormitory amounts to $350,000 per year when reckoned at five per cent. He puts depreciation at the very low figure of one per cent because such a building does not deteriorate so fast as does one used for industrial purposes. That makes $70,000 a year. He learns from the university that janitor service, light, heat, repairs and so forth cost about $110,000 per year, making a total of close to $530,000. Since the building accommodates 625 students, the other seven occupants being members of the faculty, the annual cost per student is close to $850. If a student rooms there for two years and in a building only half as expensive for the other two years, as is very commonly the case, the cost *for his room alone* amounts to the goodly sum of about $2,550. Of course the student pays part of this, an average of approximately $900 under the conditions here specified. That leaves $1,650, or approximately $11 per week, as the actual cost which philanthropic persons contribute for a student's lodging during the four years he is at college. Of course the university does not pay so much, but the whole $2,550 has to be provided somehow, either by the university or its friends.

With these facts in mind, our benefactor begins to calculate whether there is any way in which he can get a larger return on his money. He has $5,000,000 which he means to

give to a university. Like most people he wants some tangible memorial of his name, but he also wants to confer a new and outstanding benefit upon his day and generation. If it is worth while for a man's family and the public to spend $2,550 merely to supply an average student with a room for the 150 weeks of his four years' course at Yale, how much is it wise to spend in order not merely to educate a boy whose ability and promise are much greater than those of the average student, but actually to add such a boy to the dwindling supply of the world's high-grade leaders?

Seeing the matter in this new light, the benefactor decides that he will give his $5,000,000 to the university of his choice in some such way as this. A million or more shall be spent for a building; the balance shall constitute an endowment to be used to increase the salaries of the teaching staff. But instead of making a general increase all around, the salaries will be raised only when children are born. Let us suppose that at the birth of a child to any member of the faculty from the grade of instructor upward, $400 are paid to cover the extra expenses thus incurred. Thereafter, until the child finishes its sixteenth year, unless the father leaves the university for some reason other than death or disability, the sum of $400 per year will be paid to the father in addition to his salary, or to the father's widow, or the child's guardian, and then $800 per year till the child finishes its twenty-first year. That would mean a total expenditure of $11,200 per child. This is about 50 per cent more than the average expense of bringing up a child to the age of 18 years in a family where the income averages $2,500, as estimated by Doctor Dublin. In the average family of a college professor it would just about cover the cost of a child from birth through the twenty-first year, aside from college expenses. Thus, with such allowances the economic status of the teaching force would remain almost constant, no matter whether there were no children, or six per family. But the total amount of the

allowances for each child would be *only a trifle more than four times the sum that Yale University, Yale's benefactors, and the students or their parents pay for the mere use of a room while each student is in college.* If one of our hypothetical extra sons of professors were to occupy a college room for the entire 22 years during which he is assumed to receive an allowance, *the cost of the room alone would be about $14,000, or a quarter more than the total allowance.*

But would not the multiplication of children soon eat up the income even from a sum as large as $4,000,000? Let us see. At Yale, for example, the 455 resident members of the faculty for whom data are available had the following numbers of children in the middle of 1926:

Children born per year from 1922 to 1925 26
Total children under sixteen years of age 330
Total children sixteen to twenty-one years of age 66

Let us assume for convenience that the size and composition of such a faculty remain constant, except that there are enough additions so that the deaths among the children are balanced by the coming of new families. We will also assume that the birth rate remains constant except for the changes arising from the removal of the economic restriction on children. The amount to which such a removal would increase the size of the average family can be judged approximately from the effect of a similar system upon the families of missionaries compared with those of ministers who remain in America. The size of missionary families is, indeed, increased by the selection of the parents on the basis of health, but this is probably more or less balanced by the fact that temporary ill health and a nervous, run-down condition are very common among missionaries, not only by reason of the poor climates in which they live, but because of constant over-work. Moreover, when due allowance is made for incomplete records in *Who's Who,* but not among the other missionaries used in our calculation, the number of children in the average missionary family (3.6)

is not much larger than in the average family of the most successful tenth of Harvard and Yale graduates (approximately 3.3 as nearly as we can estimate). Among ministers the average completed family is reported as 2.75, but probably amounts to about 3.0 when allowance is made for deaths in early childhood.

Among 150 members of the Yale faculty who have attained full professorial rank, and for whom data are available, exactly 90 per cent are married, 80.8 per cent of those who are married have children, and the average number of children per father is 2.42. Some of the unmarried men may yet marry, and some of the others may have more children. Nevertheless, 77 professors whose families are almost certainly complete report an average of only 2.47 children per father. If we assume, as usual, that 10 per cent of the children born in these families have not been reported because of death in infancy or early childhood, the average number of children per father in this typical university faculty becomes approximately 2.8 compared with 3.0 for the ministers and 3.6 for the missionaries. If our proposed system of allowances for children increased the size of the existing families from 2.8 to 3.4, and added some children in families that are now childless, as might reasonably happen, the average number of children born per year to a faculty such as we are discussing might be 33 instead of 26.

On this basis how nearly would an endowment of $4,-000,000 pay for the children's allowances in a faculty such as has just been described. Assume that the investment yields five per cent, and that the surplus, as long as there is any, is added to the principal. Under such circumstances the outlay would increase for 22 years, that is, until the children who first received allowances had finished their twenty-first year. But meanwhile the principal would have increased so much that the outlay would equal the income only if the faculty increased somewhat in size. At the end of 22 years the number

of children to whom allowances were granted would be 726, and the *extra* number of children who would not otherwise have been born would be 154. Each child would have cost $11,200, but 26 out of every 33 of the children would have been born without the system of allowances. Therefore the total cost of the entire 726 is really the outlay that has been required to produce 154 extra children. That raises the apparent cost of each extra child to almost $53,000.

But would the real cost be so great? We greatly doubt it. In the first place, where such a system was in vogue the university would save money in other ways. For example, its scale of *basic* salaries, those paid before the addition of the children's allowances, would almost certainly not rise quite so fast as would otherwise be necessary. Thus the unmarried and childless men might receive less than elsewhere, although the average for the whole faculty would be higher. In the second place, it seems almost certain that under such a system a given sum of money would attract and hold a higher grade of men than under the present system. Of course, a few good men who had no children would go away. That would be a pity, but it would do relatively little harm, for nearly three-fourths of the professors at a place like Yale have children. Moreover, the most successful men, at least among the graduates of Yale and Harvard and among the people of *Who's Who*, are generally the ones most likely to have children. Thus, while a system of allowances for children might tend to repel about a quarter of the older candidates for university positions, it would attract three-quarters of them, and practically all the younger ones, and those thus attracted would on an average, although by no means in all cases, be of higher caliber than the quarter who were driven away.

Do you question the power of such a system to attract or hold good men? Consider how it would work in a specific case. A man 45 years old has three children, aged five, seven and ten. His basic salary is $5,500, but the children's allow-

ances raise this to $6,700. He is offered $7,200 elsewhere. Would he take it if money were the only consideration? Not if he were wise, especially if he wants to have another child. His $6,700 carries with it about $20,000 worth of life insurance absolutely free. No matter whether he lives long enough to retire at the age of 65 or dies to-morrow, either he, or his widow, or children will surely receive over $20,000 to be paid in installments by the time the youngest child is old enough to take care of itself. If he has another child this amount will be increased by over $11,000. If he takes the $7,200 position he is sure of only $10,000 more than his present income, *provided he lives and is able to keep on working* till the retiring age of 65. That is actually less than he will receive if a fourth child is born in his home, and he remains where he is. We believe that, under such circumstances, the great majority of men would choose the smaller salary by reason of its provision for the children. Certainly if the amount of money received annually were the same in both cases, the salary which consisted in part of allowances for children, even though it declined as the children became older, would be decidedly preferable because of its high rate of free insurance at just the time when insurance is most desirable, and because the birth of other children would make little or no change in the economic status of the family.

We might outline other advantages of such a system, but we must turn to another question. We have estimated that each extra child born because of a system of allowances for children would cost about $53,000, provided we ignore the fact that the allowances would lower the basic salaries. But suppose the cost is actually $53,000. Would that be too high a price for a high-grade man or woman who is likely to be a genuine leader? Not if it is worth while to pay $2,550 apiece merely in order that men whose average value to society is decidedly less than that of the average professor's son may use a college room for about 150 weeks; and not if Doctor

Dublin and the Metropolitan Life Insurance Company are right in estimating that from the age of 21 onward the ordinary man whose maximum income between the ages of 40 and 50 rises only to $2,500 will earn about $31,000 over and above the cost of his own living expenses. The average son of a college professor, to judge by our study of graduates of Yale and Harvard, ranks well above the average of all college graduates, and far, far above the average man in commerce and industry whose maximum earnings are only $2,500. Thus, even as a matter of pure dollars and cents, the kind of investment here discussed would seem to be highly profitable. It would benefit the university by attracting men of unusually high grade and by making them contented and dependable. It would benefit society by increasing the supply of exactly the kind of men who are most likely to be valuable leaders; and it would provide a most significant social experiment.

The main purpose of an experiment such as has been described above would be to find a means of removing the economic handicap of children among people of the kind whose children are most likely to turn out well. In a very real sense the thing that we have in mind is to distribute the risk, so to speak, by transferring at least a part of the burden from the parents to other people who feel a responsibility to society. The philanthropist who endows a college may shoulder the responsibility in some cases; a family may do so in others. In China the family does this by having three or four generations live together and share a common purse. Such a system would not work well in individualistic America, but it offers a suggestion which may prove valuable. In a great many European and American families the cost of children is unsystematically but genuinely distributed among a considerable number of people, including grandparents, uncles, and aunts, as well as parents. The fundamental, although often unrealized idea is that each shall be helped in his time of greatest need, and shall in turn give when some one else reaches that

same time. Thousands of parents who are comfortably situated make allowances to their children not only in childhood and youth, but during the days when grandchildren arrive on the scene. In many families uncles and aunts who have no children, or whose children do not impose an economic strain, habitually help out their brothers and sisters who find their children a burdensome expense. All this is admirable; but if it is good in its present unsystematic form, might it not be even better if it were more widespread and systematic?

We do not know just how far and in what way this system should be enlarged and improved, but we are confident that there are great possibilities. Here is the way in which we should like to treat our own children. When the children are old enough we want to be able to say that whenever any of them marries, his or her income, whatever it may be, will be permanently increased by a certain sum depending on how greatly we have been prospered. When the first child is born, we hope to contribute a definite sum for extra expenses, and again to make a permanent addition to our children's incomes. And so on for each succeeding child.

We are not sure that this is the best method. Perhaps in a few years we shall see that there is some better way in which to arrange matters so that marriage and the coming of children will not impose upon our children an economic handicap greater than is reasonable. Of course it is well that young parents should make some sacrifice for the sake of children. It would be perilous if that were not the case. But as things now are, the handicap is often so great that the people who ought most surely to have large families do not do so.

Many other suggestions far better than those in this book will doubtless soon be made to further the positive program of eugenics. We fully realize that the whole program of eugenic improvement as outlined to-day will look extremely crude a generation or two hence when eugenics as a science is far more advanced. The case of eugenics will be like that of

every other improvement. Railroads help mankind wonderfully in certain ways, but they also spread disease; the modern industrial system has great achievements to its credit, but it has enormously intensified the problems of labor and capital; the automobile is a great blessing in many ways, but it vastly complicates the problem of crime. Christianity has immeasurably ennobled man's idea of man, but it has sadly lowered the biological inheritance of our race. So it is with every step in human progress; the bad is mingled with the good; one problem is solved only to raise another. Already we can see the terrible outcry which may arise from people who suppose themselves to be genuine Builders and therefore raise large families only to have their children turn out badly. We also see that the countries which adopt eugenic methods and thereby prosper are going to arouse the intense antagonism of others which are unwilling to adopt such methods. The eugenic countries will be forced to maintain the strictest sort of barriers against immigration, and may thereby make themselves hated all over the world. Wars may result from this.

Innumerable other complications will also arise. There will be times when the faint-hearted will say, "The old days were better than now. Why did the nineteenth and twentieth centuries ever invent so evil a thing as eugenics?" But all such difficulties are merely the waves upon the surface. The deep, strong current will move on regardless of them. The human race long ago took the wheel so far as its own evolution is concerned. We have completely upset the old balance between birth and death as established by nature without our help. We have brought hundreds of new selective factors into play so that the kinds of people who live and increase, or the kinds who die out from one generation to another are vastly different from what they were in the days of our savage ancestors. There is not the slightest reason to believe that mankind is going to stop doing this unless we revert to the rankest barbarism. The only question is whether we shall stubbornly

keep our foot on the gas until there is a collision, or skillfully drive unscathed through the densest traffic. That is what eugenics proposes to do—drive the car with skill instead of letting it coast wildly down the hill. Driving thus carefully, when once we learn to drive, we shall not only provide great gain for mankind as a whole, but vastly increase the happiness of each individual. Eugenics is not a universal panacea. It will not right all our wrongs; it will not cure half our ills. But it will purge our social fabric of some of its most crying evils; it will substitute an upward for a downward trend in the present rates of survival among the Builders compared with the Destroyers. It will make the family and children the center of human thought as never before.

Positive eugenics will increase the rarer, lovelier blossoms in the Queen's garden, and improve the commoner ones. It will restore to the garden the borders and beds of beautiful pansies like unto the black velvet gown of a bishop, the yellow silk of a duchess, the royal purple of a king, the motley of the gayest of clowns, and the white robe of a bride. It will do far more than this, for when the Queen's garden has enough seed of these rare kinds, and when sufficient seed is carefully preserved, lo, here and there, and then all over the broad land even the little flower beds of the peasants will be bright with blossoms like those in the Queen's own garden. Perhaps the day will come when men with Lincoln's marvelous combination of strength, wisdom and tenderness, with Darwin's patient, humble power of persistent and clear thought, and with Roosevelt's extraordinary ability to win the coöperation of all with whom he came in touch will no longer be great rarities. They will arise, not once in a hundred years among scores of millions of people, but once in a generation among each million people, while lesser abilities will increase accordingly. Thereby the world shall obtain rest from some of its weariness, and find joy in simple, happy, beautiful things that leave no sting behind them.

APPENDIX, BIBLIOGRAPHY AND INDEX
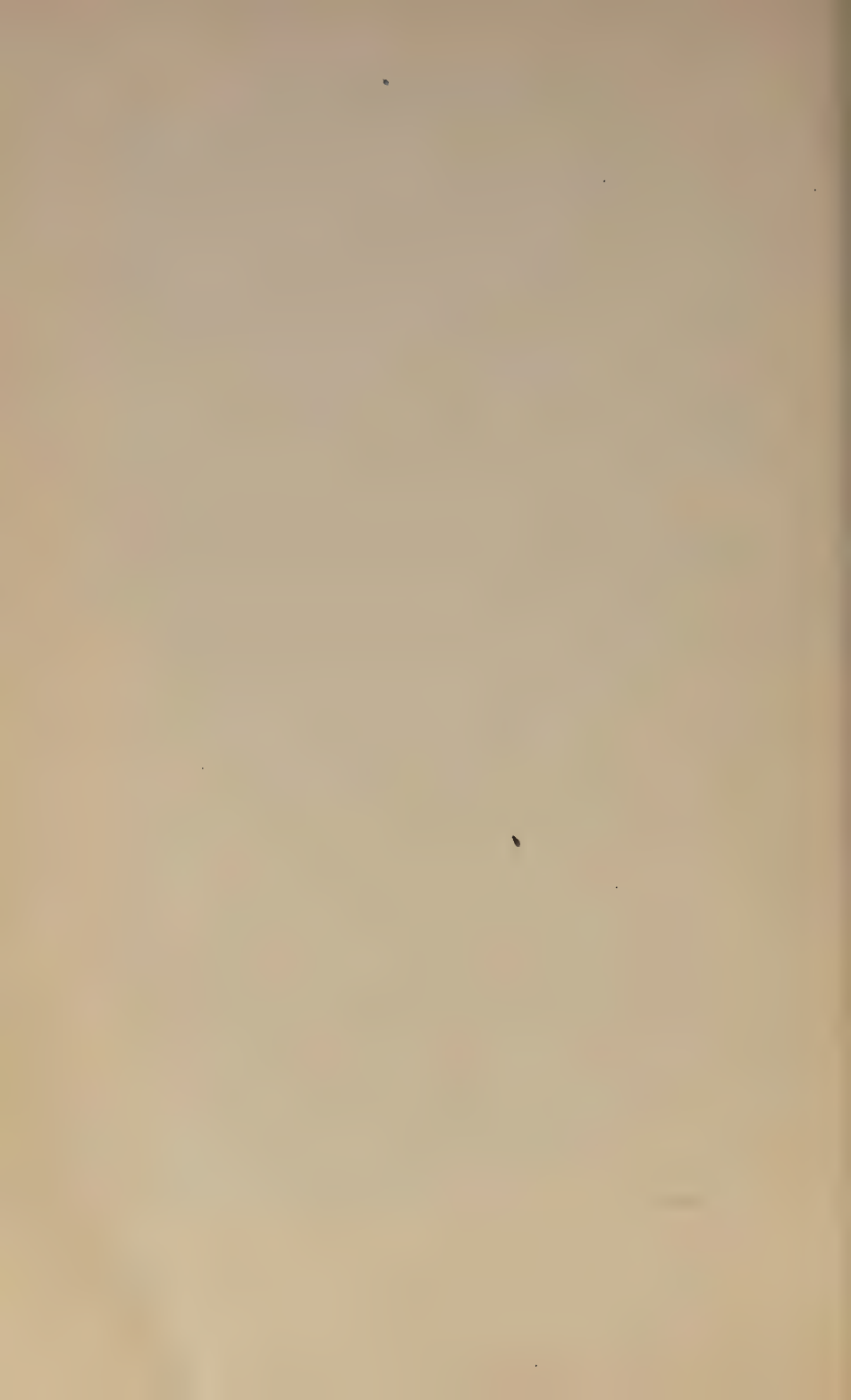
TABLE 1

MARRIAGES AND CHILDREN OF HARVARD GRADUATES

Compiled by Dr. J. C. Phillips, *Harvard Graduates' Magazine*, September, 1910; March, 1926

A	B	C	D	E	F	G	H	I	J
Year of Graduation	Number of Graduates	Per cent Married	Average Interval from Graduation to Marriage Years	Per cent of Children of Marriages	Children Per Family Where There Are Any Children	Children Per Married Graduate	Children Per Graduate	Percentage of Children Surviving	Approximate Age of Children When Survivors Were Counted
*1851–1860 (6 yrs.)	908	68	8.9	13.0	3.60	3.13	1.68	81	35
1861–1870	1,019	76	8.5	18.6	3.22	2.62	1.98	85	31
1871–1880	1,575	75	9.0	22.5	2.88	2.23	1.63	89	19
1881–1890	2,480	76	8.3	23.4	2.69	2.06	1.55	92	13
1891–1900	5,562	77	7.9	26.1	2.56	1.89	1.45	93	13
Total or average	10,636	76	8.4	23.4	2.78	2.10	1.54	90	—

*This line includes the years 1853, 1856–1860, and is less reliable than the rest of the table.

TABLE 2

MARRIAGES AND CHILDREN OF VASSAR COLLEGE GRADUATES

Recalculated from a study made in 1922 by Professor Mabel Newcomer and published in the *Vassar Quarterly* for January, 1924

Vassar, 1867–1906

Classes	Number of Alumnæ Studied	Percentage Married	Percentage of Married Alumnæ Marrying up to the Age of 31	Percentage of Childless Marriages	Average Number of Children		
					Per Mother	Per Married Alumna	Per Alumna
1867–1876	235	58	83	23	3.1	2.4	1.4
1877–1886	285	56	81	28	2.5	1.8	1.0
1887–1896	500	53	83	24	2.6	2.0	1.1
1897–1906	1,274	59	84	20	2.3	1.8	1.1
	———	—	—	—	—	—	—
1867–1906	2,294	57	83	23	2.4	1.9	1.1

TABLE 3

MARRIAGES AND CHILDREN OF SMITH COLLEGE GRADUATES

Based on data compiled from the Registrar's records published in 1926

Year of Graduation	Number of Graduates	Percentage of Married Graduates	Children Per Marriage	Children Per Graduate
1879–1886	271	47	2.0	0.9
1887–1894	592	49	1.9	0.9
1895–1902	1,526	58	1.9	1.1
1903–1910	2,161	61	1.9	1.2

TABLE 4

MARRIAGES AND CHILDREN OF MT. HOLYOKE COLLEGE GRADUATES

Data compiled by Miss Sophie Meranski in 1923

Year of Graduation	Number of Graduates	Percentage of Marriages	Percentage of Childless Marriages	Children Per Fertile Marriage	Children Per Marriage	Children Per Graduate
Before 1864	40	70	29	3.8	2.7	2.1
1864–1873	111	72	40	3.2	1.9	1.4
1874–1883	147	57	25	3.4	2.6	1.5
1884–1893	217	78	24	2.7	2.0	1.1
1894–1903	418	52	26	2.8	2.1	1.1

TABLE 5

MARITAL RECORDS AND CHILDREN OF PERSONS IN "WHO'S WHO" ARRANGED BY SIZE OF PLACE OF RESIDENCE [1]

	MEN					WOMEN				
	Over 300,000	100,000–300,000	50,000–100,000	Under 50,000	Total Including Unknown	Over 300,000	100,000–300,000	50,000–100,000	Under 50,000	Total Including Unknown
A. Records Actually Investigated										
1. Married with children	4,523	1,576	828	6,659	13,843	184	68		227	490
2. Married but no record of children	1,200[2]	302[2]	156[2]	1,234[2]	2,961[2]	261	57		183	521
3. Reported as unmarried	195[2]	40[2]	23[2]	113[2]	393[2]	85	23		61	175
4. No record as to marriage	283[2]	57[2]	22[2]	193[2]	580[2]	311	80		255	662
5. Number of children	11,985	4,470	2,334	19,310	38,792	390	168		558	1,140
6. Children per father or mother	2.65	2.04	2.82	2.90	2.80	2.12	2.47		2.46	2.32
B. Estimates										
7. Grand total	9,334	2,780	1,404	11,076	25,241	841	228		726	1,848
8. Married	8,044	2,462	1,281	10,254	22,548	476	133		436	1,078
9. Percentage married[3]	86.2	88.7	91.3	92.7	88.6	56.5	58.3		60.0	58.2
10. Percentage of married having children[4]	78.2	81.9	82.3	82.5	80.6	69.4	75.6		76.1	72.8
11. Children per man or woman[5]	1.79	2.06	2.12	2.22	2.00	0.83	1.09		1.13	0.99
12. Adult great-grandchildren per 1,000 of present generation[6]	600	925	1,000	1,155	840	60	137		152	101

[1] All the tables dealing with *Who's Who* and with Yale students have been calculated by means of a slide rule. This is sufficiently accurate in view of the assumptions which have been necessary as explained in the other notes appended to this table. It should be borne in mind that the *relative* values of the figures in these tables are more reliable and far more important than the absolute values.

[2] In order to make these numbers comparable with those in the other lines they must be multiplied by 2.867. This is because the men who report no children were investigated in only the first quarter of *Who's Who*, whereas all the men who report children were investigated; as were all the women, regardless of marital condition.

[3] Based on the assumption that 10 per cent of those who give no report as to marriage in *Who's Who* are actually married.

[4] Based on the assumption that one-half of those who are married but do not report children actually have some.

[5] Based on lines 6, 9, and 10 above.

[6] This means 500 men (or women) and their wives (or husbands) plus the women (or men) whom they might have married. The number of great-grandchildren is estimated without making allowance for the fact that more boys than girls are born. It is based on line 11, plus the assumption that 10 per cent of the children in the families reporting children in *Who's Who* are omitted because of death in infancy or early childhood, and that 15 per cent of all children born in *Who's Who* families die before reaching maturity.

TABLE 6

MARITAL RECORDS AND CHILDREN OF PERSONS IN "WHO'S WHO" ARRANGED BY CHANGES OF PLACE OF RESIDENCE

For totals and for method of preparation, see notes on Table 5

	MEN				WOMEN			
	Born and Lived in Same Town	Born and Lived in Same State	Adjoining State	Different State	Born and Lived in Same Town	Born and Lived in Same State	Adjoining State	Different State
A. *Records Actually Investigated*								
1. Married with children	1,122	3,148	2,160	7,354	54	92	88	248
2. Married but no record of children ..	338	656	427	1,502	49	76	83	298
3. Reported as unmarried	72	69	67	177	21	38	29	83
4. No record as to marriage	81	104	79	268	94	143	118	284
5. Number of children	3,113	9,038	6,036	20,439	138	214	214	562
6. Children per father or mother	2.77	2.86	2.79	2.78	2.56	2.33	2.43	2.26
B. *Estimates*								
7. Grand total	2,549	5,526	3,802	12,888	218	349	318	913
8. Married	2,116	5,060	3,407	11,732	112	182	183	574
9. Percentage married	82.9	91.7	89.7	91.2	51.4	52.1	57.6	62.9
10. Percentage of married having children	76.6	81.2	81.7	81.4	74.1	75.3	74.0	71.6
11. Children per man or woman	1.76	2.13	2.05	2.06	0.98	0.92	1.04	1.02
12. Adult great-grandchildren per 1,000 ..	575	1,020	915	925	100	82	124	112

TABLE 7

MARTIAL RECORDS AND CHILDREN OF PERSONS IN "WHO'S WHO" ARRANGED BY EDUCATION

For method of preparation, see Note on Table 5

PART I. MEN'S TABLE

Kind of Education	1. Married with Children	2. Married but no Record of Children	3. Reported as Unmarried	4. No Record as to Marriage	5. Number of Children	6. Father or Mother Per Children	7. Grand Total	8. Married	9. Percentage Married	10. Percentage of Married Having Children	11. Children Per Man or Woman	12. Adult Grandchildren Per 1,000
1. Home	114	41	5	14	332	2.91	286	236	82.5	74.0	1.78	590
2. Public school	587	180	15	41	1,664	2.83	1,264	1,115	89.3	76.8	1.94	765
3. High school	900	204	23	38	2,412	2.68	1,661	1,497	90.0	80.1	1.93	755
4. Business, trade, secretarial school	120	31	1	2	326	2.72	218	210	96.5	77.5	2.03	880
5. Normal school	64	28	1	1	194	3.03	150	144	96.0	72.2	2.10	970
6. Professional school	1,543	467	104	97	4,171	2.70	3,459	2,911	84.2	76.4	1.73	545
7. College	3,267	565	72	108	9,040	2.76	5,403	4,918	91.0	83.3	2.09	960
8. College and professional school	4,468	999	100	181	13,315	2.98	8,138	7,384	90.8	80.3	2.18	1,120
9. Ph.D.	2,704	406	58	58	7,129	2.66	4,198	3,883	92.5	84.8	2.09	960
Total, including unknown	13,843	2,961	393	586	38,792	2.80	25,140	22,499	88.6	80.6	2.00	840

PART II. WOMEN'S TABLE

Kind of Education	1. Married with Children	2. Married but no Record of Children	3. Reported as Unmarried	4. No Record as to Marriage	5. Number of Children	6. Father or Mother Per Children	7. Grand Total	8. Married	9. Percentage Married	10. Percentage of Married Having Children	11. Children Per Man or Woman	12. Adult Grandchildren Per 1,000
1. Home	55	71	11	51	125	2.27	188	131	69.8	71.0	1.13	151
2. Public school	17	37	2	26	39	2.29	82	57	69.5	64.9	1.03	115
3. High school	103	92	19	50	222	2.16	264	200	75.8	75.8	1.24	200
4. Business, trade, secretarial school	9	3	1	1	31	3.44	14	12	85.8	87.5	2.58	
5. Normal school	17	14	5	12	44	2.59	48	32	66.7	78.6	1.36	264
6. Professional school	70	91	31	119	152	2.17	311	173	55.7	70.2	0.85	65
7. College	138	115	61	178	332	2.41	492	271	55.5	75.5	1.00	105
8. College and professional school	43	35	16	102	86	2.00	196	88	44.8	74.5	0.66	30
9. Ph.D.	18	23	22	89	56	3.11	152	50	32.9	68.0	0.70	35
Total, including unknown	490	521	175	662	1,140	2.32	1,848	1,077	58.2	72.8	0.99	101

TABLE 8

MARITAL RECORDS AND CHILDREN OF PERSONS IN "WHO'S WHO" ARRANGED BY OCCUPATION

For method of preparation, see Notes on Table 5

PART I. MEN'S TABLE

Occupation	A. Records Actually Investigated						7. Grand Total	B. Estimates				
	1. Married with Children	2. Married but no Record of Children	3. Reported as Unmarried	4. No Record as to Marriage	5. Number of Children	6. Children Per Father		8. Married	9. Percentage Married	10. Percentage of Married Having Children	11. Children Per Man	12. Adult Great-grandchildren Per 1,000
Farmers	30	6	3	1	116	3.87	50	47	94.0	81.9	2.98	2,790
Agricultural scientists	228	31	5	2	666	2.92	326	317	97.2	85.9	2.44	1,540
Merchants	124	31	3	13	417	3.36	233	214	91.8	79.0	2.44	1,540
Manufacturers	287	82			925	3.22	568	526	92.6	77.2	2.30	1,280
Bankers and financiers	475	139	9	19	1,347	2.83	955	880	92.1	77.0	2.01	855
Other business men	424	111	7	21	1,210	2.86	822	748	91.0	75.8	1.97	800
Engineers	683	130	17	25	1,812	2.65	1,176	1,062	90.3	82.1	1.96	790
Government officials	998	287	29	64	2,866	2.87	2,088	1,840	88.2	77.1	1.95	780
Publishers and printers	431	94	20	8	1,158	2.69	780	702	90.0	80.7	1.95	780
Doctors	851	253	22	37	2,358	2.77	1,746	1,588	90.9	76.8	1.94	770
Architects	140	44	9	2	382	2.73	298	267	89.6	76.2	1.87	690
Military officers	282	69	12	20	693	2.46	571	486	85.1	79.0	1.65	475
Railway executives	129	31	8	13	334	2.59	278	222	79.9	79.1	1.64	465
Missionaries	46	7		1	171	3.71	75	67	89.3	84.3	2.79	2,300 (2,255)*
Clergymen	1,343	192	32	38	4,419	3.29	2,095	1,905	90.9	85.3	2.55	1,735
Educators	2,818	424	35	51	7,745	2.74	4,281	4,049	94.6	84.8	2.20	1,080
Scientists	1,393	233	37	32	3,819	2.74	2,260	2,071	91.6	84.0	2.11	990
Lawyers	1,411	316	43	50	4,019	2.85	2,584	2,332	90.3	80.3	2.07	925
Social workers	91	9	2	3	238	2.61	132	118	89.4	88.5	2.06	915
Journalists	283	54		29	728	2.57	521	446	85.6	81.7	1.80	610
Lecturers	59	13	5		149	2.53	110	96	87.3	80.8	1.79	600
Librarians	111	20	6		254	2.29	185	168	90.8	83.1	1.73	550
Authors	518	158	39	54	1,310	2.53	1,238	987	79.7	78.2	1.58	420
Musicians	170	45	10	25	401	2.34	400	306	76.5	77.8	1.38	280
Artists	300	115	23	39	666	2.22	808	641	79.3	73.4	1.29	225
Antiquarians, etc.	10	5	3	1	27	2.70	36	24	66.7	70.8	1.28	220
Actors	30	24	2	8	68	2.26	127	100	78.8	65.0	1.16	165
Total, including doubtful	13,843	2,961	393	586	38,792	2.80	25,147	22,505	89.5	80.8	2.02	865

* Omitting Roman Catholic priests and other religious celibates.

TABLE 8 (Continued)

MARITAL RECORDS AND CHILDREN OF PERSONS IN "WHO'S WHO" ARRANGED BY OCCUPATION

For method of preparation see notes on Table 5

PART II. WOMEN'S TABLE

Occupation	A. Records Actually Investigated						B. Estimates					
	1. Married with Children	2. Married but no Record of Children	3. Reported as Unmarried	4. No Record as to Marriage	5. Number of Children	6. Children Per Mother	7. Grand Total	8. Married	9. Percentage Married	10. Percentage of Married Having Children	11. Children Per Woman	12. Adult Great-grandchildren Per 1,000
Farmers		1					1	1				
Agricultural scientists							2	0				
Merchants	1	1		2	2		1	1				
Manufacturers	1						1	1				
Bankers and financiers	3			3	5		1	1				
Other business women	2	3			7		10	5				
Engineers					13		2	0				
Government officials	7	1			19		10	2				
Publishers and printers	11	5	1	11	27	2.45	28	17	60.7	82.4	1.23	195
Doctors	10	7	5	15	18	1.80	27	19	51.3	76.4	0.71	38
Architects		1						1				
Military officers												
Railway executives												
Missionaries	4	1		4	19		4	5	33.0	67.2	0.46	
Clergymen	33	46	45	4	68	2.06	9	96	37.5	71.4	0.86	10
Educators	9	9	7	167	29	3.22	291	21				
Scientists			1	31			56					
Lawyers	3	6	8	6	9		16	10				
Social workers	21	18	2	22	45	2.14	69	41	59.4	75.6	0.96	
Journalists	8	7	7	20	15	1.87	37	17	46.0	75.3	0.64	
Lecturers	22	16		8	51	2.32	53	39	73.6	78.3	1.34	93
Librarians	4	2	10	35	7	1.75	51	10	19.6	70.0	0.24	
Authors	219	201	57	193	525	2.39	670	439	65.5	75.0	1.17	255
Musicians	23	45	5	40	41	1.78	113	72	63.7	66.0	0.75	177
Artists	41	50	14	58	78	1.90	163	97	59.5	71.2	0.81	43
Antiquarians, etc.	3		2	19	5		3	3				
Actresses	3	45	7	21	3	1.00	69	50	72.5	53.0	0.38	
No definite occupation	56	46			138	2.46	130	104	80.1	77.0	1.52	56
Total, including doubtful	490	521	175	662	1,149	2.13	1,848	1,077				362

TABLE 9

SIZE OF BIRTHPLACE (1870) COMPARED WITH OCCUPATIONS OF MEN IN "WHO'S WHO" BASED ON 7,227 MEN WHO REPORT CHILDREN AND WERE MARRIED BEFORE 1905

			Percentages	
Occupation	*Number of Cases*	*Over 100,000*	*10,000– 100,000*	*Under 10,000*
Missionaries	37	2.7	8.1	89.2
Religious leaders	1,078	8.7	9.5	81.8
Government officials	656	8.7	9.6	81.7
Educators	1,687	7.7	11.1	81.2
Lawyers	1,018	14.6	11.2	74.3
Scientists	806	13.5	13.0	73.4
Publishers and printers	253	14.6	14.6	70.8
Doctors	596	17.8	12.5	67.7
Engineers	479	18.6	15.0	66.4
Literary men	263	20.6	13.3	66.1
Bankers and financiers	354	17.8	18.4	63.8
Total	7,227	12.2	11.9	75.9

This table shows what percentage of the older men in each occupation were born in large places compared with small. It resembles a table published on page 61 of *The Pulse of Progress,* but is based on a larger and older group of men and on all parts of the country. Here, as in the other table, the people who follow the altruistic professions tend to be born in the rural districts or smaller towns, while those who follow the more self-seeking occupations are born in larger proportions in the great cities. Government officials form an exception because their profession is greatly favored if a man lives all of his life in the same place. Otherwise the leaders of rural origin tend to be missionaries, religious leaders, and educators; in the middle come lawyers, scientists, publishers and doctors; while at the urban end come the engineer, who would perhaps have been a scientist or educator if he had been born in a small town instead of a great city, the literary man who might have been a religious leader in the smaller place, and the banker who stands as the antithesis of the missionary.

TABLE 10

RELIGIOUS AFFILIATIONS OF PEOPLE IN "WHO'S WHO" COMPARED WITH MARRIAGE, FAMILY, NUMBER OF ADHERENTS, EMINENT PERSONS, AND PROBABLE DESCENDANTS

PART I. MEN'S TABLE

Name of Denomination	Estimated Adherents in Thousands	Number of Persons in Who's Who 1	Estimated Persons in Who's Who Per 100,000 Adherents	Per Cent Married	Per Cent of Married Having Children	Children Per Father or Mother	Estimated Children Per Man 2	Probable Great-grandchildren Per 1,000 Persons 3
Mormons	616	66	11	100	88	5.3	4.6	10,200
United Brethren	1,050	34	3	100	84	3.3	2.8	2,320
Lutherans	6,910	548	8	94	84	3.3	2.6	1,950
Evangelicals	1,420	66	5	92	91	3.0	2.5	1,730
Brethren	376	27	7	100	90	2.8	2.5	1,600
Reformed	1,530	195	13	96	89	2.9	2.5	1,580
Baptists 4	14,200	2,215	16	95	84	3.1	2.5	1,560
Methodists 4	19,750	3,510	18	98	85	2.9	2.4	1,455
Disciples	3,880	410	11	99	87	2.8	2.4	1,450
Christians	288	129	45	89	86	3.1	2.4	1,380
Roman Catholics (Omitting priests)	18,261	1,220	7	65	74	3.3	1.6	450
Presbyterians	7,030	4,360	62	92	74	3.3	2.3	1,310
Adventists	392	43	11	96	85	2.8	2.3	1,230
Congregationalists	2,405	2,840	115	88	86	3.0	2.2	1,190
Unitarians	111	1,316	1,185	98	83	2.7	2.2	1,125
Episcopalians	3,160	4,920	156	91	82	2.8	2.1	910
Friends	325	102	31	84	82	2.9	2.0	855
Jews	1,600	312	20	86	87	2.6	1.9	755
Universalists	47	183	390	94	76	2.4	1.7	500
Tabulated as reporting religious belief	—	9,592 5	—	93	83	2.9	2.2	1,130
Tabulated as not reporting religious belief	—	8,191 5	—	84	78	2.7	1.8	590

1 Based on 9,502 men and 688 women who report religious affiliation. This column shows the estimated numbers if 10 per cent of all the persons in Who's Who have no religious affiliations and if the remainder are distributed in the same proportions as are those who report.

2 Without allowance for children not reported because of death in infancy or childhood.

3 This means 500 men (or women) and the women (or men) whom they married or might have married. For method of calculation, see Note 2, Table 5. Note that in computing this column the original data in preceding columns were carried to one place more of decimals than in the present table.

4 Omitting colored churches.

5 These two numbers make a total which is 4,713 less than the total for the numbers in the same column above them. This is because only a little over a third of the men who do not report children were used in our original calculations. The remainder (estimated at 4,713 who presumably have some religious affiliation, plus 524 who are supposed to have none) have been distributed...

TABLE 10 (Continued)

RELIGIOUS AFFILIATIONS OF PEOPLE IN "WHO'S WHO" COMPARED WITH MARRIAGE, FAMILY, NUMBER OF ADHERENTS EMINENT PERSONS, AND PROBABLE DESCENDANTS

PART II. WOMEN'S TABLE

Name of Denomination	Estimated Adherents in Thousands	Estimated Number of Persons in Who's Who 1	Estimated Persons in Who's Who Per 100,000 Adherents	Per Cent Married	Per Cent of Married Having Children	Children Per Father or Mother	Estimated Children Per Woman 2	Probable Great-Grandchildren Per 1,000 Persons 3
Mormons	616	31	5	92	92	3.3	2.8	2,400
Lutherans	6,910	12	0.2					—
Reformed	1,530	10	0.7					152
Baptists 4	14,200	87	0.6	53	74	2.9	1.1	166
Methodists 4	19,750	116	0.6	60	78	2.5	1.2	—
Disciples	3,880	17	0.4					—
Christians	288	19	7					99
Roman Catholics	18,261	82	0.4	68	76	1.9	1.0	169
Presbyterians	7,030	266	4	55	76	2.5	1.0	—
Adventists	392	10	9.3					29
Congregationalists	2,405	230	10	33	74	2.7	0.7	82
Unitarians	111	114	103	57	80	2.0	1.0	—
Episcopalians	3,160	576	18	55	75	2.4	1.0	99
Friends	325	10	3					—
Jews	1,600	19	1					—
Universalists	47	10	21					—
All persons reporting religious belief	—	688		54	76	2.4	1.0	99
All who do not state religious belief	—	1,160		61	71	2.3	1.0	101

N.B. Notes are same as in Part I.

TABLE II

OCCUPATIONS OF MEN IN "WHO'S WHO" COMPARED WITH RELIGIOUS AF-
FILIATIONS. BASED ON 4,158 MEN WHO WERE MARRIED BEFORE 1905
AND WHO REPORT CHILDREN

Percentage of Total Engaged in Each Occupation *

Denominations	Cases	Banking	Education	Engineering	Government	Law	Literature	Medicine	Publishing	Religion	Science
Unitarians	210	7	16	11	4	19	3	10	3	13	14
Universalists	30	7	17	—	13	10	—	3	—	47	—
Congregationalists ..	557	5	29	6	6	10	3	5	3	23	10
Episcopalians	739	9	12	9	9	18	4	11	5	18	5
Presbyterians	889	6	23	6	8	15	2	6	3	24	7
Dunkers	44	—	32	—	4	5	—	7	7	45	—
Christian	26	8	35	—	—	19	4	—	4	31	—
Quakers	20	15	30	5	10	—	15	5	—	15	5
Methodists	741	4	32	2	9	13	1	4	3	27	5
Baptists	470	3	29	2	8	7	1	6	1	39	4
Reformed	51	4	20	2	6	6	—	2	6	53	2
Jews	41	12	2	—	2	27	5	7	—	34	10
Disciples	94	3	32	2	8	17	2	4	2	26	4
United Brethren ...	22	—	37	—	—	—	—	—	9	54	—
Miscellaneous	62	2	29	5	2	3	3	6	8	34	8
Adventists	6	—	—	—	—	—	—	—	—	—	—
Lutherans	80	1	29	1	12	3	4	1	1	40	8
Evangelicals	16	—	—	—	—	—	—	—	—	—	—
Roman Catholics ...	85	6	11	11	15	33	6	6	7	1	5

* This table is not discussed in the text. Its value lies in its indication of a
tendency for the different denominations to enter different occupations. The figures
in italics indicate the denominations which have an unusually large representation in
each occupation. Note how the Unitarians have a stronger tendency than any other
group toward engineering and science, the Universalists toward government offices,
the Episcopalians toward medicine, the Quakers toward banking and literature, the
Jews toward the law, the conservative United Brethren toward education, publish-
ing and religion, and the Catholics toward government and law. Since unmarried
and childless men are not included in this table, the Roman Catholic figures are not
strictly comparable with the others.

TABLE 12

RELATIVE RANK OF PROFESSIONS

The value of the professions is based on success in life among Yale College graduates of the classes of 1893, 1896, and 1898, and Harvard College graduates of 1899, 1900, and 1901, together with the success in college of the sons of men in each profession in the Yale College classes of 1893, 1896, and 1898, and 1922–1926. The weighted average success on a percentage basis (E) is obtained by giving the least successful profession in each of Columns A to D a value of zero and the most successful a value of 100 and distributing the rest accordingly.

Profession	A Probable Success of Yale Sons 1922–1926		B Success of Yale Sons 1893, 1896, 1898		C Success of Yale Graduates 1893, 1896, 1898		D Success of Harvard Graduates 1899, 1900, 1901		E Weighted Average Success on Percentage Basis
	Cases	Rank	Cases	Rank	Cases	Rank	Cases	Rank	
Missionaries	18	84.0	6	1.92	6	1.80	2	1.50	100
Professors	44	81.5	7	2.56	47	2.22	95	2.22	72
Ministers	42	79.2	54	2.76	17	2.34	51	2.42	49
Office holders	20	77.5	15	2.61	14	2.30	22	2.46	49
Writers	35	81.3	18	2.76	25	2.70	69	3.00	46
Doctors	105	79.2	32	2.92	45	2.31	128	2.84	44
Lawyers	166	78.2	75	2.83	192	3.03	287	2.69	41
Business executives	503	78.2	72	2.94	127	2.81	115	2.77	35
Engineers	54	77.8	12	2.74	21	2.65	160	2.99	34
Army and Navy	13	76.6	5	3.14	3	2.93	10	2.19	32
Teachers	21	78.9	16	3.00	27	3.29	119	3.00	31
Bankers, etc.	131	77.2	48	2.81	63	3.29	134	3.06	27
Other business men	278	78.6	195	3.02	54	3.82	364	3.28	23
Farmers	16	75.7	44	2.86	8	3.86	36	3.39	18
Unspecified	89	78.1	46	3.26	11	4.09	79	3.70	11

TABLE 13

YALE COLLEGE CLASSES OF 1922–1926

Success in College Compared with Education of Parents

Students of Foreign Parentage Are Omitted

Education of Parents	Cases	Rank in Studies	Non-Athletic Activities	Athletics	Votes	Earnings	Probable Success	Size of Parents' Family
1. Father and mother both college graduates	101	77.9	2.5	4.8	0.68	1.11	80.4	2.78
2. Father Yale College graduate	250	77.0	3.4	4.5	1.05	0.62	80.4	2.76
3. Father graduate of college other than Yale	390	77.0	2.7	3.9	0.89	0.80	79.7	2.64
4. Mother but not father college graduate	39	77.4	1.5	4.8	0.81	1.25	78.9	2.62
5. Neither parent college graduate	839	76.3	1.9	3.3	0.63	0.97	78.2	2.64
6. Father graduate of Sheffield Scientific School	45	74.8	3.1	4.4	1.33	0.32	77.9 *	2.52

* Probable error of mean = ± 0.22.

TABLE 14

COLLEGE STANDING OF YALE COLLEGE GRADUATES (1922–1926) COMPARED WITH NUMBER OF CHILDREN IN FAMILIES FROM WHICH STUDENTS COME

Students of Foreign Parentage Are Omitted

A. Sons of College Graduates (Either Parent)

Children in Family	Number of Cases	Rank in Studies	Non-Athletic Activities	Athletics	Senior Votes	Earnings	Probable Success (Studies Plus Non-Athletic Activities)
1	100	76.4	3.1	3.5	0.93	$ 26	79.5
2	211	76.9	3.0	3.8	0.82	37	79.9
3	158	77.1	2.7	4.0	0.80	76	79.6
4	138	77.2	2.6	4.1	1.22	40	79.8
5	95	76.6	3.5	4.4	0.92	67	80.1
6 or more	30	78.4	3.5	4.5	1.22	128	81.9

B. Sons of Parents Neither of Whom Went to College

Children in Family	Number of Cases	Rank in Studies	Non-Athletic Activities	Athletics	Senior Votes	Earnings	Probable Success
1	106	77.6	1.1	3.8	0.49	43	78.7
2	204	77.1	1.5	3.6	0.47	49	78.6
3	194	77.1	1.5	4.2	0.68	68	78.6
4	115	76.4	1.5	4.0	0.84	133	77.9
5	79	75.1	1.3	4.0	0.76	42	76.4
6 or more	74	75.3	1.8	4.6	0.97	123	77.1

TABLE 15

SUCCESS AND MARITAL RELATIONS OF HARVARD COLLEGE GRADUATES,
1899, 1900, AND 1901

J. C. Phillips

Grade of Success in Life	I	II	III	IV	V	Totals
Number of members	120	430	735	473	131	1,889
Number married	112	374	637	341	76	1,540
Number unmarried	8	56	98	132	55	349
Number childless marriages	22	66	144	124	29	385
Per cent unmarried	.07	.13	.13	.28	.42	.19
Per cent of marriages childless ..	.19	.18	.23	.36	.38	.25
Number of children born	262	831	1,227	529	105	2,954
Number born per capita per member	2.19	1.95	1.67	1.12	.80	1.57
Number born per capita per married member	2.35	2.24	1.92	1.55	1.37	1.92
Number born per capita per married member with children	2.91	2.69	2.38	2.24	2.06	2.56
Probable number of children surviving	243	768	1,134	488	97	2,730
Number surviving per capita per member	2.02	1.76	1.54	1.03	.74	1.45
Number surviving per capita per married member	2.17	2.05	1.78	1.43	1.28	1.77
Number surviving per capita per married member with children.	2.70	2.49	2.30	2.25	2.06	2.36
Interval between graduation and marriage	7.17	7.57	6.89	7.58	8.37	7.30

Grade   I.   101% maintaining itself.
Grade   II.   88% maintaining itself.   Extinct in 45th generation.
Grade III.   77% maintaining itself.   Extinct in 26th generation.
Grade IV.   52% maintaining itself.   Extinct in 10th generation.
Grade   V.   37% maintaining itself.   Extinct in 5th generation.

Total   72% maintaining itself.   Extinct in 21st generation.

The following data from the files of the Presbyterian Mission Board in New York show a gradual decline in the size of families from 4.88 per fertile family among people who were married before 1884 to 3.15 among those who were married from 1890-1894. Then they show a steady increase up to and including those married from 1910-1914. It is almost certain, however, that some of the families where the parents were married in the period from 1905-1909 were not complete in 1926 when these figures were tabulated, and certainly many

families were incomplete among those married from 1910-1914. Therefore it seems likely that the final size of these latter families will be at least 3.6. The younger missionaries are apparently having equally large families, for even among those married from 1915-1919 there were already 2.6 children per family in 1926. Another significant feature of this table is that it probably gives a pretty clear idea of the normal rate of infertility among people of good health and good habits. For the entire six hundred people included in our tabulation, the percentage of childless marriages is 11.3, but some children who died in early infancy have undoubtedly been omitted, so that the real rate of infertility is less than 11.3, while the number of children per fertile family is larger than appears below.

TABLE 16

Missionary Families of the Presbyterian Board of Missions

Date of Marriage	Cases	Per cent Childless	Children Per Fertile Family	
Before 1884	39	10.3	4.88	
1885-1889	39	2.5	3.63	
1890-1894	41	14.9	3.62	
1895-1899	56	5.5	3.15	
1900-1904	66	12.3	3.25	
1905-1909	83	12.9	3.35	(Not quite complete)
1910-1914	126	14.6	3.41	(Not complete)
1915-1919	150	12.3	2.64	(Far from complete)

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1. POPULATION AND VITAL STATISTICS.
2. NATURAL SELECTION IN MAN.
3. SEXUAL SELECTION IN MAN.
4. SELECTION AND WAR.
5. INHERITANCE OF MENTAL ABILITY.
6. RACE.
7. IMMIGRATION.
8. EUGENICS.
9. THE BIRTH RATE AND BIRTH CONTROL.
10. HEREDITY IN RELATION TO MENTAL DEFECTS, CRIME AND DELINQUENCY.
11. STERILIZATION AND SEGREGATION.

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